97249

Access DB# _____

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Minnifield Examiner #: _____ Date: 6/23/03
Art Unit: 1645 Phone Number 305 3394 Serial Number: 10/038504
Mail Box and Bldg/Room Location: 8E12 MP Results Format Preferred (circle): PAPER DISK E-MAIL
8A07 OFFICE

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Immunizing Compositions + Methods of Use

Inventors (please provide full names): Daryll Emery; Darren E. Straub; Donavan E. Zammert; Gayla K. Kallevig

Earliest Priority Filing Date: 1-3-02

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Pls. search inventor names + attached cls. 30, 34-

Also search terms:
SRP- siderophore receptor polypeptides
outer membrane proteins
siderophores enterochelin
aerobactin
ferrichrome

Salmonella spp
Salmonella enterica serovars
S. bredeney
S. dublin
S. typhimurium
S. agona
S. Choleraesuis
S. blockley
S. enteritidis

Thanks
Minnifield

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STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: Beverly c 4954	NA Sequence (#)	STN
Searcher Phone #:	AA Sequence (#)	Dialog
Searcher Location:	Structure (#)	Questel/Orbit
Date Searcher Picked Up:	Bibliographic	Dr.Link
Date Completed: 06-24-03	Litigation	Lexis/Nexis
Searcher Prep & Review Time:	Fulltext	Sequence Systems
Clerical Prep Time:	Patent Family	WWW/Internet
Online Time:	Other	Other (specify)

PTO-1590 (1-2000)

-key terms

(FILE 'HCAPLUS' ENTERED AT 12:27:33 ON 24 JUN 2003)

L1 7311 SEA FILE=HCAPLUS ABB=ON PLU=ON (SR OR SRP)(W)SIDEROPHOR E OR SIDEROPHORE(W)(RECEPTOR OR ENTEROCHELIN OR AEROBACTI N OR FERRICHROME) OR OUTER MEMBRAN? PROTEIN OR OMP

L2 2751 SEA FILE=HCAPLUS ABB=ON PLU=ON L1 AND (COLI OR SALMONELLA OR SEROVARS OR ENTERICA OR BREDENE# OR DUBLIN OR TYPHIMURIUM OR AGONA OR CHOLERASUIS OR BLOCKLEY OR ENTERIDITIS)

L3 335 SEA FILE=HCAPLUS ABB=ON PLU=ON L2 AND (LPS OR LIPOPOLYS ACCHARIDE OR LIPO(W)(POLYSACCHARIDE OR POLY SACCHARIDE) OR LIPOPOLY SACCHARIDE)

L4 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L3 AND CARRIER

L1 7311 SEA FILE=HCAPLUS ABB=ON PLU=ON (SR OR SRP)(W)SIDEROPHOR E OR SIDEROPHORE(W)(RECEPTOR OR ENTEROCHELIN OR AEROBACTI N OR FERRICHROME) OR OUTER MEMBRAN? PROTEIN OR OMP

L2 2751 SEA FILE=HCAPLUS ABB=ON PLU=ON L1 AND (COLI OR SALMONELLA OR SEROVARS OR ENTERICA OR BREDENE# OR DUBLIN OR TYPHIMURIUM OR AGONA OR CHOLERASUIS OR BLOCKLEY OR ENTERIDITIS)

L3 335 SEA FILE=HCAPLUS ABB=ON PLU=ON L2 AND (LPS OR LIPOPOLYS ACCHARIDE OR LIPO(W)(POLYSACCHARIDE OR POLY SACCHARIDE) OR LIPOPOLY SACCHARIDE)

L5 23 SEA FILE=HCAPLUS ABB=ON PLU=ON L3 AND (AVIAN OR BIRD OR BOVINE OR COW OR OX OR CATTLE OR OXEN OR CAPRINE OR PORCINE OR PIG OR PIGLET OR HOG OR OVINE OR SHEEP OR GOAT OR SWINE)

L6 30 S L4 OR L5

L6 ANSWER 1 OF 30 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2003:43746 HCAPLUS

DOCUMENT NUMBER: 138:266389

TITLE: Identification of pathogen-specific and conserved genes expressed in vivo by an **avian** pathogenic Escherichia **coli** strain

AUTHOR(S): Dozois, Charles M.; Daigle, France; Curtiss, Roy, III

CORPORATE SOURCE: Department of Biology, Washington University, St. Louis, MO, 63130, USA

SOURCE: Proceedings of the National Academy of Sciences of the United States of America (2003), 100(1), 247-252
CODEN: PNASA6; ISSN: 0027-8424

PUBLISHER: National Academy of Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Escherichia **coli** is a diverse bacterial species that comprises commensal nonpathogenic strains such as E. **coli** K-12 and pathogenic strains that cause a variety of diseases in different host species. **Avian** pathogenic E. **coli** strain .chi.7122 (O78:K80:H9) was used in a chicken infection model to identify bacterial genes that are expressed in infected tissues. By using the cDNA selection method of selective capture of

Typhimurium. Evidence of infection of **cattle** with **Salmonella Typhimurium** was readily obtained with an **LPS**-based ELISA in assocn. with an immunoblotting procedure, supplementing existing bacteriol. procedures. This enabled the detection of an increase in the no. of **cattle** with serum antibodies to **Salmonella Typhimurium** **LPS** following vaccination with Bovivac. The immunoassays described provided evidence of infection with **Salmonella Typhimurium** and served as a valuable adjunct to established bacteriol.

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:521529 HCAPLUS
DOCUMENT NUMBER: 137:77879
TITLE: Immunizing compositions and methods of use
INVENTOR(S): Zammert, Donavan E.; Kallevig, Gayla K.; Emery, Daryll A.; Straub, Darren E.
PATENT ASSIGNEE(S): Willmar Poultry Company, Inc., USA
SOURCE: PCT Int. Appl., 83 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002053180	A2	20020711	WO 2002-US188	20020103
WO 2002053180	A3	20030313		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003036639	A1	20030220	US 2002-38504	20020103

PRIORITY APPLN. INFO.: US 2001-259504P P 20010103
US 2001-262896P P 20010119

AB The present invention provides compns. including **siderophore receptor** polypeptides and porins from Gram-neg. microbes such as **Salmonella**, , and preferably **lipopolysaccharide** at a concn. of no greater than about 10.0 endotoxin units per mL. The present invention also provides methods of making and using such compns. and vaccines for vaccination of dairy **cattle** with no side effects for treatment of metritis or mastitis or to reduce fecal shedding of enteric bacteria.

L6 ANSWER 4 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:82054 HCAPLUS

DOCUMENT NUMBER: 134:292658
TITLE: An investigation into the pathogenic properties of Escherichia **coli** strains BLR, BL21, DH5.alpha. and EQ1
AUTHOR(S): Chart, H.; Smith, H. R.; La Ragione, R. M.; Woodward, M. J.
CORPORATE SOURCE: Laboratory of Enteric Pathogens, Division of Gastrointestinal Infections, Central Public Health Laboratory, London, NW9 5HT, UK
SOURCE: Journal of Applied Microbiology (2000), 89(6), 1048-1058
CODEN: JAMIFK; ISSN: 1364-5072
PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Aims: To examine Escherichia **coli** strains EQ1, DH5.alpha., BLR and BL21 for known pathogenic mechanisms. Methods and Results: Using specific DNA probes, the strains were shown not to carry the genes encoding invasion, various adhesion phenotypes or expression of a range of enterotoxins. The strains were unable to express long-chain **lipopolysaccharide** and were susceptible to the effects of serum complement. Using a BALB/c mouse model, the strains were shown to be unable to survive in selected tissues or to persist in the mouse gut. Using a chick model, strains EQ1, BLR and BL21 invaded livers but not spleens; only strain EQ1 persisted in the chick gut. In Merino **sheep**, only strain EQ1 was detected 6 d post-infection. Conclusions: Escherichia **coli** strains EQ1, DH5.alpha., BLR and BL21 did not carry the well-recognized pathogenic mechanisms required by strains of E. **coli** causing the majority of enteric infections. Significance and Impact of the Study: Escherichia **coli** strains EQ1, DH5.alpha., BLR and BL21 were considered to be non-pathogenic and unlikely to survive in host tissues and cause disease.
REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:640727 HCAPLUS
DOCUMENT NUMBER: 131:270960
TITLE: Monoclonal antibodies against Campylobacter jejuni and Campylobacter **coli** outer membrane antigens
INVENTOR(S): Mandrell, Robert E.; Bates, Anna H.; Brandon, David L.
PATENT ASSIGNEE(S): United States Dept. of Agriculture, USA
SOURCE: PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9949889	A1	19991007	WO 1999-US7056	19990331

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CZ,

DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN,
IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD,
MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,
SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ,
BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE,
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6395879	B1	20020528	US 1999-277599	19990326
AU 9934582	A1	19991018	AU 1999-34582	19990331
US 2002106383	A1	20020808	US 2001-810873	20010316
US 6551599	B2	20030422		

PRIORITY APPLN. INFO.:
US 1998-80166P P 19980331
US 1999-277599 A 19990326
WO 1999-US7056 W 19990331

AB The present invention is directed to a method of producing monoclonal antibodies that are highly specific for (1) unique epitopes of Campylobacter jejuni and (2) epitopes conserved between Campylobacter jejuni and Campylobacter **coli** outer membranes. In one example, a monoclonal antibody is characterized as reacting with the major outer membrane porin. In a second example, a monoclonal antibody is characterized as having an epitope belonging to carbohydrate on porin or porin complexed with **lipopolysaccharide**.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:597423 HCAPLUS
DOCUMENT NUMBER: 131:213104
TITLE: Antigenic conjugates of conserved **lipopolysaccharides** of gram negative bacteria
INVENTOR(S): Arumugham, Rasappa G.; Fortuna-Nevin, Maria; Apicella, Michael A.; Gibson, Bradford W.
PATENT ASSIGNEE(S): American Cyanamid Company, USA
SOURCE: Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 941738	A1	19990915	EP 1999-301747	19990309
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AU 9919540	A1	19990923	AU 1999-19540	19990309
JP 11322793	A2	19991124	JP 1999-61354	19990309
BR 9902008	A	20000509	BR 1999-2008	19990309

PRIORITY APPLN. INFO.:
US 1998-37529 A 19980310

AB Antigenic conjugates are provided which comprise a **carrier** protein covalently bonded to the conserved portion of a **lipopolysaccharide** of a gram neg. bacteria, wherein said conserved portion of the **lipopolysaccharide** comprises the inner core and lipid A portions of said **lipopolysaccharide**

, said conjugate eliciting a cross reactive immune response against heterologous strains of said gram neg. bacteria. The **carrier** protein is selected from CRM197, tetanus toxin, diphtheria toxin, pseudomonas exotoxin A, cholera toxin, group A streptococcal toxin, pneumolysin of Streptococcus pneumoniae, filamentous hemagglutinin (FHA), FHA of Bordetella pertussis, pili or pilins of Neisseria gonorrhoeae or meningitidis, **outer membrane proteins** of Neisseria meningitidis, C5A peptidase of Streptococcus and surface protein of Moraxella catarrhalis.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:194664 HCAPLUS
DOCUMENT NUMBER: 131:86577
TITLE: Protection and immune responses induced by attenuated **Salmonella typhimurium** UK-1 strains
AUTHOR(S): Zhang, Xin; Kelly, Sandra M.; Bollen, Wendy; Curtiss, Roy, III
CORPORATE SOURCE: Department of Biology, Washington University, St. Louis, MO, 63130, USA
SOURCE: Microbial Pathogenesis (1999), 26(3), 121-130
CODEN: MIPAEV; ISSN: 0882-4010
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We previously reported that **Salmonella typhimurium** SR-11 mutants with deletion mutations in the genes encoding adenylate cyclase (cya) and the cAMP receptor protein (crp) are avirulent and protective in mice. **Salmonella typhimurium** UK-1 is highly virulent for chicks (oral LD50of 3.times.103CFU) and mice (oral LD50of 8.5.times.103CFU) and is capable of lethal infections in **pigs**, calves and horses. We postulated that attenuated derivs. of this lethal strain would probably induce a higher level of protective immunity than achieved with attenuated derivs. of less virulent S. **typhimurium** strains such as SR11. To test this hypothesis, we have constructed S. **typhimurium** UK-1 .DELTA.cya-12.DELTA.crp-11 mutant strain 3985 and its virulence plasmid cured deriv. 4095 to investigate their avirulence and immunogenicity in mice. We found that the mutants are avirulent and able to induce protective immune responses in BALB/c mice. These mutant strains retained wild-type ability to colonize the gut assocd. lymphoid tissue but reach and persist in spleen and liver at a significantly lower level than the wild-type parent strain. Mice survived oral infection with >1.times.109CFU of 3985 (the equiv. to 10550% LDs of wild-type S. **typhimurium** UK-1) and were fully protected against challenge with 105times the LD50of the wild-type parent. Immunized mice developed a high level of serum IgG titer to **Salmonella LPS** and delayed-type hypersensitivity (DTH) response to S. **typhimurium outer membrane proteins**. Compared to the virulence plasmid-contg. strain 3985, the virulence plasmid cured .DELTA.cya.DELTA.crp mutant strain 4095 was more attenuated and less protective, as some mice immunized with 4095 died when challenged with the wild-type UK-1 strain. This

work demonstrates that S. **typhimurium** UK-1 .DELTA.crp.DELTA.cya mutant strain may be a potential live vaccine to induce protective immunity against **Salmonella** infection or to deliver foreign antigens to the immune system. (c) 1999 Academic Press.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:751199 HCAPLUS
DOCUMENT NUMBER: 130:195507
TITLE: Protection of antibodies to **outer membrane proteins** and **lipopolysaccharides** of **avian** pathogenic escherichia **coli** isolate O78-166
AUTHOR(S): Gao, Song; Liu, Jinbiao; Zhang, Rukuan; Liu, Xiufan
CORPORATE SOURCE: Department of Veterinary Medicine, Agriculture College, Yangzhou University, Yangzhou, 225009, Peop. Rep. China
SOURCE: Yangzhou Daxue Xuebao, Ziran Kexueban (1998), 1(3), 32-35
CODEN: YDXKFT; ISSN: 1007-824X
PUBLISHER: Yangzhou Daxue Xuebao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB The level of antibody to **outer membrane proteins** (**OMPs**) and **lipopolysaccharides** (**LPS**) of **avian** pathogenic Escherichia **coli** isolate O78-166 was detd. in the expt. group chickens which were vaccinated with the ultrasonic inactivations vaccine of E. **coli** O78-166 isolate and the pos. control group chickens which were not vaccinated but challenged with the same strain. The av. antibody titer to **OMPs** of survivor chickens with no gross lesions was very significantly higher than that of dead and survivors with severe gross lesions (extensive fibrinous airsacculitis, pericarditis or perihepatitis) ($P < 0.01$) in vaccinated chickens. The difference of the av. antibody titer to **OMPs** was significant ($P < 0.05$) between the survivors with no gross lesions and dead or survivors with severe gross lesions in pos. control chickens. The difference of av. antibody titer to **LPS** between the vaccinated and pos. control chickens was not significant ($P > 0.05$). The results showed that the protection was pos. related to the prodn. of **OMPs** antibodies but not to the **LPS** antibodies.

L6 ANSWER 9 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:615639 HCAPLUS
DOCUMENT NUMBER: 130:22754
TITLE: Epidemiology and properties of heat-stable enterotoxin-producing Escherichia **coli** serotype O169:H41
AUTHOR(S): Nishikawa, Y.; Helander, A.; Ogasawara, J.; Moyer, N. P.; Hanaoka, M.; Hase, A.; Yasukawa, A.
CORPORATE SOURCE: Department of Epidemiology, Osaka City Institute

of Public Health and Environmental Sciences, Osaka, 543-0026, Japan
SOURCE: Epidemiology and Infection (1998), 121(1), 31-42
CODEN: EPINEU; ISSN: 0950-2688
PUBLISHER: Cambridge University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Enterotoxigenic Escherichia **coli** (ETEC) serotype 0169:H41 organisms have become the most prevalent ETEC in Japan since the first outbreak in 1991. It was assumed that the outbreaks were due to clonal spread of this new ETEC serotype. The relationship of 32 strains isolated from 6 outbreaks were examd. for biotype, antibiotic susceptibility, enterotoxigenicity, protein banding pattern, **lipopolysaccharide** banding pattern, plasmid anal., and ribotyping. Further, the strains were examd. by hemagglutination, surface hydrophobicity, and the ability to adhere to HEp-2 cells. The present study suggests that the outbreaks were caused by multiple clones of STp-producing 0169:H41 since they showed differences in ribotype and **outer membrane protein** banding patterns. The strains did not agglutinate human or **bovine** red blood cells in a mannose-resistant manner. They adhered to HEp-2 cells in a manner resembling enteroaggregative E. **coli**. Five strains were examd. by dot-blot tests for the colonization factor antigens CFA/I, CS1, CS2, CS3, CS4, CS5, CS6, CS7, PCFO159, PCFO166 and CFA/III. Although four strains expressed CS6, no structure for CS6 was identified. A strain that the anti-CS6 MAbs did not react with could adhere to HEp-2 cells in a mannose resistant manner; thus, it is unlikely that CS6 play an important role in the adhesion to the cells. Electron microscopy studies of the 0169:H41 strains suggested that curly fimbriae, a possible new colonization factor, may play an important role in the adhesion of the bacteria to HEp-2 cells. In conclusion, outbreaks due to ETEC 0169:H41 were caused by multiple clones, and the strains should be examd. in detail for a possible new colonization factor.
REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 10 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:101839 HCAPLUS
DOCUMENT NUMBER: 128:242717
TITLE: Characterization of an immuno-dominant antigen in Brucella ovis and evaluation of its use in an enzyme-linked immunosorbent assay
AUTHOR(S): Kittelberger, Reinhold; Diack, Damian S.; Vizcaino, Nieves; Zygmunt, Michel S.; Cloeckaert, Axel
CORPORATE SOURCE: P.O. Box 40063, Central Animal Health Laboratory, Wallaceville Animal Research Centre, Upper Hutt, N. Z.
SOURCE: Veterinary Microbiology (1998), 59(2,3), 213-227
CODEN: VMICDQ; ISSN: 0378-1135
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A panel of 45 Brucella ovis serol. pos. sera were tested in immunoblots against B. ovis **outer membrane**

proteins Omp31 and Omp25, purified by preparative SDS-gel electrophoresis. Forty-three sera reacted with Omp31, while only 11 reacted with Omp25, suggesting that Omp31 is identical to the previously reported immuno-dominant 29-kDa protein. Attempts to purify Omp31 on a larger scale by using procedures such as ion exchange-, reversed phase-, affinity- and gel filtration chromatog. suggested that the **outer membrane proteins** were aggregated with rough **lipopolysaccharide**. Only denaturing SDS-gel filtration chromatog. was able to sep. proteins of about 29 kDa from rough **lipopolysaccharide** but did not sep. Omp31 from Omp25 in B. ovis prepns. When used in an ELISA, this 29-kDa protein prepn. was less sensitive and less specific than the routinely used heat-extd. B. ovis antigen. A readily available recombinant E. **coli**, expressing the gene for Omp31 from Brucella melitensis 16 M, was used to ext. and enrich recombinant Omp31 by a temp.-dependent Triton X-114-based technique. When this material was used in immunoblots with the 45 sera from B. ovis-infected **sheep** and with 10 monoclonal antibodies, raised against B. ovis Omp31, major differences in the antibody reactivity between the recombinant B. melitensis Omp31 and the B. ovis Omp31 were found. Such differences were unexpected because of the known structural and immunol. relatedness of **outer membrane proteins** from various Brucella species. These results indicated that the antibody-response in B. ovis naturally-infected **sheep** against the immuno-dominant Omp31 was directed against epitopes which were only accessible when the protein was aggregated with rough **lipopolysaccharides**, or which were formed after aggregation but were not present in the recombinant protein.

L6 ANSWER 11 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:745966 HCAPLUS
DOCUMENT NUMBER: 128:33780
TITLE: Immunogenic complex, use, method of preparation and vaccine containing it
INVENTOR(S): Binz, Hans; Haeuw, Jean-Francois; Svenson, Stefan
PATENT ASSIGNEE(S): Pierre Fabre Medicament, Fr.; Binz, Hans; Haeuw, Jean-Francois; Svenson, Stefan
SOURCE: PCT Int. Appl., 62 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9741888	A1	19971113	WO 1997-FR800	19970506
W: AU, BR, CA, CN, JP, KR, MX, NZ, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
FR 2748476	A1	19971114	FR 1996-5692	19960507
FR 2748476	B1	19980814		
CA 2254084	AA	19971113	CA 1997-2254084	19970506
AU 9729019	A1	19971126	AU 1997-29019	19970506
EP 914152	A1	19990512	EP 1997-923139	19970506
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,				

PT, IE, FI

CN 1221348	A	19990630	CN 1997-195397		19970506
BR 9708979	A	19990803	BR 1997-8979		19970506
NZ 332809	A	20000526	NZ 1997-332809		19970506
JP 2000509707	T2	20000802	JP 1997-539595		19970506
PRIORITY APPLN. INFO.:			FR 1996-5692	A	19960507
			WO 1997-FR800	W	19970506

AB The invention features an immunogenic complex, characterized in that it contains at least one oligo- or polysaccharide epitope naturally present in bacteria, coupled with a **carrier** protein selected from the human serum albumin-binding protein of Streptococcus,the **outer membrane proteins** of gram-neg. bacteria, or fragments thereof. The invention also features vaccines contg. such an immunogenic complex, and the method for prepg. same.

L6 ANSWER 12 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:843019 HCAPLUS
DOCUMENT NUMBER: 123:250592
TITLE: Molecular marker analysis of **Salmonella typhimurium** from surface waters, humans, and animals
AUTHOR(S): Graeber, I.; Montenegro, M. A.; Bunge, C.; Boettcher, U.; Tobias, H.; Heinemeyer, E-A.; Helmuth, R.
CORPORATE SOURCE: Bundesinstitut fur gesundheitlichen Verbraucherschutz und Veterinarmedizin, Berlin, Germany
SOURCE: European Journal of Epidemiology (1995), 11(3), 325-31
CODEN: EJEPE8; ISSN: 0393-2990
PUBLISHER: Kluwer
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Salmonella** contamination of North Sea water was detected for the first time in 1988 in Germany during routine examns. of bathing areas. Since then, subsequent isolations along the coast have been reported regularly. To define the source of contamination, strains isolated from seawater and rivers were studied by mol. marker methods. Their properties were compared with those of strains originating from possible sources of contamination such as humans, **cattle**, and sewage treatment plant water. Plasmid profile anal. of whole bacterial populations and the detn. of antibiotic resistance patterns demonstrated, that contamination through the surrounding **cattle** industry could be excluded. **Cattle** isolates belonged to a widespread clone of phage type 204c which was multiresistant and exhibited an unique plasmid pattern which was never found in sea water isolates. **Outer membrane protein** and **lipopolysaccharide** anal. failed to demonstrate differences among the **Salmonella** populations and proved in this case insufficient for mol. marker discrimination.

L6 ANSWER 13 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:838151 HCAPLUS
DOCUMENT NUMBER: 123:282959
TITLE: Serologic studies of experimentally induced **Salmonella** choleraesuis var kunzendorf

infection in **pigs**
AUTHOR(S): Srinand, S.; Robinson, R. A.; Collins, J. E.; Nagaraja, K. V.
CORPORATE SOURCE: College of Veterinary Medicine, University of Minnesota, St Paul, MN, 55108, USA
SOURCE: American Journal of Veterinary Research (1995), 56(9), 1163-8
CODEN: AJVRAH; ISSN: 0002-9645
PUBLISHER: American Veterinary Medical Association
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two indirect ELISA contg. **outer membrane protein** (**OMP**) and **lipopolysaccharide** (**LPS**) antigens from a field isolate of **Salmonella** choleraesuis var kunzendorf were developed and evaluated in exptl. infected and uninfected control **pigs**. Exptl. induced infection with S choleraesuis was successfully established in 10 **pigs** by oral inoculation with 108 organisms, and 3 **pigs** died of clin. salmonellosis at postinoculation (PI) weeks 1, 2, and 4. Swab specimens from tonsils, nostrils, and rectum of **pigs** were obtained for culture, and sera were evaluated at weekly intervals for 9 wk after inoculation. The ELISA contg. **OMP** and **LPS** antigens with either anti-**swine** IgG or protein albumin-to-globulin ratio (antiglobulin) conjugates were standardized for serol. evaluation. All 4 ELISA (2 **OMP** and 2 **LPS**) detected seroconversion by PI week 3 and had sensitivities and specificities of 97.8 and 88.8, 100 and 100, 95.6 and 88.8, and 93.3 and 72.5%, at their ideal cutoff points (neg. mean optical d. + 2 SD). There was excellent agreement between all 4 ELISA systems as detd. by kappa values. Cultures of fecal, tonsil, and nasal swab specimens were pos. for S choleraesuis until the fourth week of infection. Fecal swab specimens from 1 **pig** were pos. for S. choleraesuis until PI week 7. Persistent infection after antemortem culture results were neg. was detected by all 4 ELISA, which indicated consistently high titers until the end of PI week 9. Conventional bacteriol. examn. of intestines, mesenteric lymph nodes, bone marrow, lung, liver, spleen, and bile yielded pos. results for S. choleraesuis in the 3 **pigs** that died of clin. infection, whereas results were neg. in the other 7 **pigs** infected by the end of PI week 9. Histol. examn. of lung, liver, spleen, intestines, and mesenteric lymph nodes from the 3 **pigs** that died of S choleraesuis infection revealed severe ulceration and inflammatory cell infiltration in the lamina propria and submucosa of the intestine, whereas minimal changes were obsd. in other organs.

L6 ANSWER 14 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:817449 HCAPLUS
DOCUMENT NUMBER: 123:225865
TITLE: **Salmonella typhimurium** responses to a bactericidal protein from human neutrophils
AUTHOR(S): Qi, Shu-Yun; Szyroki, Alexander; Giles, Ian G.; Moir, Arthur; O'Connor, C. David
CORPORATE SOURCE: Department of Biochemistry, University of Southampton, Southampton, SO16 7PX, UK
SOURCE: Molecular Microbiology (1995), 17(3), 523-31

CODEN: MOMIEE; ISSN: 0950-382X
PUBLISHER: Blackwell
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Bactericidal/permeability-increasing protein [BPI] is a cationic antimicrobial protein from neutrophils that specifically binds to the surfaces of Gram-neg. bacteria via the lipid A component of **lipopolysaccharide**. To obtain information about the responses of **Salmonella typhimurium** to cell-surface damage by BPI, two-dimensional gel electrophoresis and N-terminal microsequencing were used to identify proteins that were induced or repressed following BPI treatment. The majority of the affected proteins are involved in central metabolic processes. Upon addn. of BPI, the .beta.-subunit of the F1 portion of Escherichia **coli** ATP synthase was repressed threefold whereas six proteins were induced up to 11-fold. Three of the latter were identified as lipoamide dehydrogenase, enoyl-acyl **carrier** protein reductase, and the heat-shock protein HtpG. Addnl., a novel protein, BipA, was identified that is induced over sevenfold by BPI; sequence anal. suggests that it belongs to the GTPase superfamily and interacts with ribosomes. A conserved direct-repeat motif is present in the regulatory regions of several BPI-inducible genes, including the bipA gene. Only one of the BPI-responsive proteins was induced when cells were treated with polymyxin B, which also binds to lipid A. The authors therefore conclude that BPI and polymyxin B affect different global regulatory networks in S. **typhimurium** even though they bind with high affinity to the same cell-surface component.

L6 ANSWER 15 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:189289 HCAPLUS
DOCUMENT NUMBER: 120:189289
TITLE: Antibody response to the 89-kDa **outer membrane protein** of Brucella in **bovine** brucellosis
AUTHOR(S): Limet, J. N.; Cloeckaert, A.; Bezard, G.; Van Broeck, J.; Dubray, G.
CORPORATE SOURCE: Fac. Univ. Notre Dame de la Paix, Namur, 5000, Belg.
SOURCE: Journal of Medical Microbiology (1993), 39(6), 403-7
CODEN: JMMIAV; ISSN: 0022-2615
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The antibody response of **cattle** to the minor 89-kDa **outer-membrane protein** (**OMP**) of Brucella was measured by indirect ELISA with the purified protein and compared with the antibody response to smooth **lipopolysaccharide** (S-**LPS**). Pre-incubating sera with sonicated cell exts. of Escherichia **coli** prevented the binding of antibodies from uninfected animals to the 89-kDa **OMP**, suggesting the presence of one or more cross-reactive epitopes on this protein. In **cattle** infected exptl. with Brucella abortus, the antibody response to the 89-kDa **OMP** was later and less intense than that to S-**LPS**. In naturally infected **cattle**, 68% of animals showing an antibody response to S-**LPS** also showed an antibody response to the 89-kDa **OMP**. Results indicate that

specific epitopes of the 89-kDa **OMP** in combination with those of other **OMPs** could be useful for diagnosis of brucellosis in **cattle**.

L6 ANSWER 16 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:515323 HCAPLUS
DOCUMENT NUMBER: 119:115323
TITLE: Conjugates of the class II protein of the outer membrane of Neisseria meningitidis and of human immunodeficiency virus 1 (HIV-1)-related peptides
INVENTOR(S): Emini, A.; Liu, Margaret A.; Marburg, Stephen; Tolman, Richard L.
PATENT ASSIGNEE(S): Merck and Co., Inc., USA
SOURCE: Eur. Pat. Appl., 66 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 519554	A1	19921223	EP 1992-201693	19920611
R: CH, DE, FR, GB, IT, LI, NL				
CA 2071088	AA	19921220	CA 1992-2071088	19920611
JP 05306299	A2	19931119	JP 1992-201740	19920619

PRIORITY APPLN. INFO.: US 1991-715273 19910619

AB The class II major immunoenhancing protein (MIEP) of N. meningitidis (purified directly from the outer membrane of N. meningitidis or obtained through recombinant cloning and expression of DNA encoding the N. meningitidis MIEP) has immunol. **carrier** as well as immunol. enhancement and mitogenic properties. MIEP conjugates with HIV-1-related peptides are useful for the induction of mammalian immune responses directed against the peptides, against HIV-1 strains, and for the neutralization of HIV-1 and prevention of HIV-1-related diseases. Synthesis of HIV PND (principal neutralizing determinant) peptides is described, as is conjugation of these peptides to MIEP. Monkeys inoculated with 2 such conjugates developed antibodies specifically capable of binding the resp. PND peptide. Unconjugated, disulfide-bonded, cyclic peptide having identical primary sequence did not raise detectable anti-peptide antibodies in monkeys at 0, 4, or 8 wks. MIEP, free of detectable **lipopolysaccharide**, showed mitogenic activity (lymphocyte proliferation).

L6 ANSWER 17 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:404794 HCAPLUS
DOCUMENT NUMBER: 119:4794
TITLE: TnphoA **Salmonella** abortusovis mutants unable to adhere to epithelial cells and with reduced virulence in mice
AUTHOR(S): Rubino, S.; Leori, G.; Rizzu, P.; Erre, G.; Colombo, M. M.; Uzzau, S.; Masala, G.; Cappuccinelli, P.
CORPORATE SOURCE: Ist. Microbiol. Virol., Univ. Sassari, Sassari, Italy
SOURCE: Infection and Immunity (1993), 61(5), 1786-92

transcribed sequences and enrichment for the isolation of pathogen-specific (non-E. **coli** K-12) transcripts, pathogen-specific cDNAs were identified. Pathogen-specific transcripts corresponded to putative adhesins, **lipopolysaccharide** core synthesis, iron-responsive, plasmid- and phage-encoded genes, and genes of unknown function. Specific deletion of the aerobactin siderophore system and E. **coli** iro locus, which were identified by selective capture of transcribed sequences, demonstrated that these pathogen-specific systems contribute to the virulence of strain .chi.7122. Consecutive blocking to enrich for selection of pathogen-specific genes did not completely eliminate the presence of transcripts that corresponded to sequences also present in E. **coli** K-12. These E. **coli** conserved genes are likely to be highly expressed in vivo and contribute to growth or virulence. Overall, the approach we have used simultaneously provided a means to identify novel pathogen-specific genes expressed in vivo and insight regarding the global gene expression and physiol. of a pathogenic E. **coli** strain in a natural animal host during the infectious process.

REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:620170 HCAPLUS
DOCUMENT NUMBER: 138:3398
TITLE: Immunoassays to detect the serum antibody response of **cattle** to infection with **Salmonella typhimurium** definitive type 104 and following vaccination with Bovivac S
AUTHOR(S): Chart, H.; Pearce, M. C.; Mellor, D.; Shaw, D. J.; Brown, D.
CORPORATE SOURCE: Laboratory of Enteric Pathogens, Division of Gastrointestinal Infections, Central Public Health Laboratory, London, NW9 5HT, UK
SOURCE: Journal of Applied Microbiology (2002), 93(1), 46-51
CODEN: JAMIFK; ISSN: 1364-5072
PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB To use ELISA and immunoblotting assays to examine the serum antibody response of **cattle** infected with **Salmonella Typhimurium** DT104 and following vaccination with Bovivac. Three hundred and twenty-nine **cattle**, including 16 shedding multiresistant **Salmonella Typhimurium** DT104, were screened for serum antibodies binding to O = 1, 4, 5, 12 **lipopolysaccharide** (**LPS**) antigens before and after vaccination with Bovivac. Sera with an ELISA reading of 0.9A405 or above were shown to contain antibodies, of the IgG-class only, to the **LPS** of **Salmonella Typhimurium** using immunoblotting. Prior to vaccination, only 11 **cattle** had serum IgG-class antibodies to the O = 4, 5 **LPS** antigens, and of these one also had antibodies to **outer membrane proteins** and H = i flagellar antigens. Following vaccination, 87 out of 315 **cattle** developed serum antibodies to the **LPS** of **Salmonella**

CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English

AB S. abortusovis is a pathogenic bacterium highly specific to **sheep**, causing spontaneous abortion. In order to understand the role of genes involved in pathogenicity, the authors investigated 4 S. abortusovis with the random mutagenic TnphoA transposon. Some 95 S. abortusovis TnphoA mutants yielding alk. phosphatase active fusion protein were obtained. In this way, the authors created a bank of strains in order to identify any phenotypic modification which could affect the periplasmic and/or exported proteins involved in virulence. The TnphoA mutants were screened for the ability to adhere to epithelial cells; 23 mutant strains lost this phenotypic feature. To detect the chromosomal TnphoA insertions, DNA was restricted by the enzyme EcoRV, which does not cleave the TnphoA sequence. Southern blotting anal. revealed the existence of four classes of integration. Colonies of adhesiveless mutants appear to be as smooth as the S. abortusovis wild type, and electrophoretic anal. indicates a normal **lipopolysaccharide** profile. To identify mutations affecting genes encoding for **outer membrane proteins** (**OMPs**), the alk. phosphatase portion of the fusion proteins was revealed in TnphoA mutants by immunoblotting with specific antibodies. A mutation in IMPs was detected in seven mutants. Restriction anal. identified in four mutants a common region of 2 kb where alterations in genes coding for **OMPs** occur. It is suggested that this region is involved in pathogenicity in mice, since a group of mutant strains has shown reduced virulence in mice and one mutant is completely avirulent. Furthermore, after mice were exposed orally to these mutants, significant protection against oral challenge with the parental virulent strain resulted.

L6 ANSWER 18 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:198173 HCAPLUS
DOCUMENT NUMBER: 118:198173
TITLE: Escherichia **coli** O-polysaccharide-protein conjugate vaccine
INVENTOR(S): Cryz, Stanley J.; Furer, Emil P.
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9303765	A1	19930304	WO 1992-US6531	19920811
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
US 5370872	A	19941206	US 1991-743787	19910812
AU 9224641	A1	19930316	AU 1992-24641	19920811
AU 669854	B2	19960627		
EP 598818	A1	19940601	EP 1992-918016	19920811
EP 598818	B1	20010131		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL,				

	SE				
JP 06510530	T2	19941124	JP 1992-504334		19920811
JP 2763960	B2	19980611			
AT 198989	E	20010215	AT 1992-918016		19920811
ES 2154263	T3	20010401	ES 1992-918016		19920811
CA 2115564	C	20020122	CA 1992-2115564		19920811
ZA 9206063	A	19930519	ZA 1992-6063		19920812
PRIORITY APPLN. INFO.:			US 1991-743787	A	19910812
			WO 1992-US6531	A	19920811

AB A polyvalent vaccine composed of nonpyrogenic, nontoxic, immunogenic serotype-specific **lipopolysaccharide** (**LPS**)-based conjugates, is prepd. by (1) purifying **LPS** from E. **coli** expressing complete O-polysaccharide side chains, (2) isolating the O-polysaccharide region of the **LPS** mol. by hydrolysis in a dil. AcOH soln. and purifying it essentially free of lipid A, and (3) covalently coupling lipid A-free O-polysaccharide via at least one OH or CO2H group of the polysaccharide to a **carrier** protein. Thus, O-polysaccharide was derived from hydrolyzed E. **coli LPS** and covalently linked to toxin A by using adipic acid dihydrazide as a spacer mol. The obtained conjugate elicited an anti-E. **coli LPS** and an antitoxin A IgG antibody response in both rabbits and humans.

L6 ANSWER 19 OF 30 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER:	1993:145406 HCAPLUS
DOCUMENT NUMBER:	118:145406
TITLE:	Characterization of a polysaccharide capsular antigen of septicemic Escherichia **coli** O115:K"V165":F165 and evaluation of its role in pathogenicity
AUTHOR(S):	Ngeleka, Musangu; Harel, Josee; Jacques, Mario; Fairbrother, John M.
CORPORATE SOURCE:	Fac. Med. Vet., Univ. Montreal, Saint-Hyacinthe, QC, J2S 7C6, Can.
SOURCE:	Infection and Immunity (1992), 60(12), 5048-56 CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB Escherichia **coli** strains of serogroup O115:K(-):F165 have been assocd. with septicemia in calves and **piglets**. These strains express a capsular antigen referred to as K"V165" which inhibits agglutination of the O antigen by anti-O115 serum. The authors used hybrid transposon TnphoA mutants M48, 18b, and 2, and a spontaneous O-agglutinable mutant, 5131a, to evaluate the role of K"V165" in the pathogenicity of E. **coli** O115. Mutant M48 was as resistant to 90% rabbit serum and as virulent in day-old chickens as the parent strain 5131, mutants 18b and 5131a were less resistant to serum and less virulent in chickens, and mutant 2 was serum sensitive and avirulent. Anal. of **outer membrane protein** and **lipopolysaccharide** profiles failed to show any difference between the transposon mutants and the parent strain. In contrast, the spontaneous O-agglutinable mutant showed addnl. bands in the 16-kDa region of the polysaccharide ladder-like pattern. Mutants 2 and 5131a produced significantly less K"V165" capsular antigen than the parent strain, as demonstrated by a competitive ELISA with adsorbed anti-K"V165" serum. In addn., electron microscopic anal. revealed that mutants 2 and 5131a had lost the capsular layer obsd. in the

parent strain after fixation with glutaraldehyde-lysine. This capsule contained carbohydrate compds. and resembled an O-antigen capsule since it prevented O-antigen agglutination before the bacteria were heated at 100.degree. and induced bacterial serum resistance. The capsule-defective mutants colonized the intestinal epithelium of exptl. infected gnotobiotic **pigs** but failed to induce clin. signs of septicemia. The authors concluded that E. **coli** strains of serogroup O115 expressed a polysaccharide capsular antigen which induced serum resistance and consequently contributed to the pathogenicity of the bacteria.

L6 ANSWER 20 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:171840 HCAPLUS
DOCUMENT NUMBER: 116:171840
TITLE: Modulation of effects of **lipopolysaccharide** on macrophages by a major **outer membrane protein** of Proteus mirabilis as measured in a chemiluminescence assay
AUTHOR(S): Weber, Gabriele; Heck, Dagmar; Bartlett, Robert R.; Nixdorff, Kathryn
CORPORATE SOURCE: Inst. Mikrobiol., Tech. Univ. Darmstadt, Darmstadt, D-6100, Germany
SOURCE: Infection and Immunity (1992), 60(3), 1069-75
CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A major protein isolated from purified cell walls of P. mirabilis (39-kDa protein) is a strong modulator of the specific immune responses to **lipopolysaccharide** (**LPS**) from this bacterium. When the protein is mixed with **LPS** before immunization of mice, the responses of antibody-producing cells specific for **LPS** are greatly enhanced and converted predominantly to the IgG isotype. Here, the immunomodulating effects of the 39-kDa protein were tested at the level of interaction of **LPS** with macrophages. Activation of macrophages was detd. by measuring the prodn. of oxygen radicals in a chemiluminescence assay with a lucigenin as the amplifier. **LPS** from P. mirabilis induced strong oxidative metab. in both peritoneal and bone marrow-derived murine macrophages. These responses were inhibited in a dose-dependent manner by mixing **LPS** with increasing amts. of the protein. In contrast, **bovine** serum albumin and methylated **bovine** serum albumin enhanced the response of macrophages dramatically when complexed with **LPS**. The inhibiting activity of the 39-kDa protein was also obsd. with **LPS** from Escherichia **coli** K-12.

L6 ANSWER 21 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:558671 HCAPLUS
DOCUMENT NUMBER: 113:158671
TITLE: T-cell epitope as **carrier** molecule for conjugate vaccines
INVENTOR(S): Bixler, Garvin; Pillai, Subramonia; Insel, Richard
PATENT ASSIGNEE(S): Praxis Biologics, Inc., USA
SOURCE: PCT Int. Appl., 103 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8906974	A2	19890810	WO 1989-US388	19890131
WO 8906974	A3	19890824		
W: AU, DK, FI, JP, NO				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
AU 8930654	A1	19890825	AU 1989-30654	19890131
AU 634153	B2	19930218		
EP 399001	A1	19901128	EP 1989-908669	19890131
EP 399001	B1	19940727		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 03502691	T2	19910620	JP 1989-502396	19890131
JP 2921574	B2	19990719		
NO 9002909	A	19900827	NO 1990-2909	19900629
NO 179164	B	19960513		
NO 179164	C	19960821		
DK 9001829	A	19900731	DK 1990-1829	19900731
DK 174416	B1	20030217		
US 5785973	A	19980728	US 1995-481923	19950607

PRIORITY APPLN. INFO.:
US 1988-150688 A 19880201
US 1989-304783 B1 19890131
WO 1989-US388 A 19890131
US 1992-828711 B1 19920131
US 1993-164989 B1 19931209

AB Conjugates between T-cell epitopes (recognition sites) for bacterial products such as tetanus toxin and medically useful substances such as antigens, haptens, or antigenic determinants are prepd. These conjugates elicit antibody responses and are useful in vaccine prepns. The use of the T-cell epitope, as opposed to a larger peptide contg. the epitope, provides an economic advantage in that it may be readily prepd. as well as a safety advantage in avoidance of use of the whole protein. The conjugates also stimulate antibodies against tumor-specific or tumor-assocd. antigens and are useful in the immunization of infants whose immune system is not fully developed. The DeLisi and Berzofsky algorithm (1985) for potential amphipathic regions was applied to diphtheria toxin cross-reactive material (CRM) and 6 regions were identified. Peptides corresponding to these CRM regions were synthesized (synthesis given) and those stimulating T-cells were conjugated to phosphoribosylribitol phosphate (PRP, capsular polymer of Haemophilus influenzae b). The conjugates were capable of stimulating antibodies to PRP.

L6 ANSWER 22 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:154936 HCAPLUS
DOCUMENT NUMBER: 112:154936
TITLE: Surface antigens from Escherichia **coli** O2 and O78 strains of **avian** origin
AUTHOR(S): Dho-Moulin, M.; Van den Bosch, J. F.; Girardeau, J. P.; Bree, A.; Barat, T.; Lafont, J. P.
CORPORATE SOURCE: Cent. Tours, Inst. Natl. Rech. Agron., Monnaie, 37380, Fr.
SOURCE: Infection and Immunity (1990), 58(3), 740-5

CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Fimbriae from 02 and 078 virulent strains of **avian** E. **coli** were compared with type 1A fimbriae with regard to the apparent mol. wts. of their subunits and their antigenic relationships. Under static broth culture conditions, most 078 strains expressed fimbriae closely related to those of type 1A. Under the same culture conditions, another type of fimbriae, sharing some common properties with type 1A fimbriae, was obsd. only on 02 strains; however, these fimbriae differed from type 1A fimbriae in the apparent mol. wts. of their subunits and in their expression of specific epitopes. They were called type 1-like fimbriae. Homologies in **lipopolysaccharide** and **outer membrane protein** profiles were also demonstrated among the strains expressing type 1-like fimbriae, which suggests the existence of a clonal relationship among 02:K1 **avian** E. **coli** strains. The 078 strains studied did not appear to be clonally related.

L6 ANSWER 23 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:572059 HCAPLUS
DOCUMENT NUMBER: 111:172059
TITLE: Identification of genus-specific epitopes on the outer membrane complexes of Chlamydia trachomatis and Chlamydia psittaci immunotypes 1 and 2
AUTHOR(S): Mondesire, Roy R.; Maclean, Ian W.; Shewen, Pat E.; Winston, Scott E.
CORPORATE SOURCE: Dep. Vet. Microbiol., Univ. Guelph, Guelph, ON, N1G 2W1, Can.
SOURCE: Infection and Immunity (1989), 57(9), 2914-18
CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Polyclonal and monoclonal antibodies were used to study the immunogenic and antigenic characteristics of chlamydiae. The most predominant proteins in the outer membrane complex, the major **outer membrane protein** (MOMP), and the doublet consisting of proteins of 57 and 62 kilodaltons (57-62 kDa doublet), were examd. Immunoblot analyses were performed with chlamydial elementary bodies by using (i) immune sera from **sheep** which had undergone a recent episode of abortion due to the **ovine** abortion (OA) strain of C. psittaci, (ii) rabbit hyperimmune anti-C. psittaci (OA) and -C. trachomatis sera, and (iii) monoclonal antibodies to the MOMP of C. trachomatis. The typical pattern of response with polyclonal antisera against heterologous elementary bodies was reactivity with the 57-62 kDa doublet and **lipopolysaccharide** with weak and sometimes no anti-MOMP activity. Three distinct genus-specific anti-C. trachomatis MOMP monoclonal antibodies showed different patterns of reactivity with the MOMPs of the 2 immunotypes of C. psittaci and C. trachomatis **serovars**. The data confirm the predominance of a genus-specific 57-62 kDa doublet response despite the presence of genus-specific epitopes on the MOMP.

L6 ANSWER 24 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1986:532044 HCAPLUS

DOCUMENT NUMBER: 105:132044
TITLE: Immunogenic complex and its use as an immune stimulant, vaccines and reagent
INVENTOR(S): Morein, Bror
PATENT ASSIGNEE(S): Swed.
SOURCE: Eur. Pat. Appl., 65 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 180564	A2	19860507	EP 1985-850326	19851016
EP 180564	A3	19880601		
EP 180564	B1	19910717		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 65186	E	19910815	AT 1985-850326	19851016
CA 1275042	A1	19901009	CA 1985-493583	19851022
FI 8504158	A	19860502	FI 1985-4158	19851023
FI 86801	B	19920715		
FI 86801	C	19921026		
ZA 8508157	A	19860625	ZA 1985-8157	19851023
DK 8504985	A	19860502	DK 1985-4985	19851030
DK 166653	B1	19930628		
NO 8504355	A	19860502	NO 1985-4355	19851031
NO 167076	B	19910624		
NO 167076	C	19911002		
JP 61129136	A2	19860617	JP 1985-245270	19851031
JP 07116056	B4	19951213		
ES 548412	A1	19861201	ES 1985-548412	19851031
AU 8549383	A1	19860508	AU 1985-49383	19851106
AU 589915	B2	19891026		
ZA 8607792	A	19870527	ZA 1986-7792	19861014
CA 1275246	A1	19901016	CA 1986-520464	19861015
WO 8702250	A1	19870423	WO 1986-SE480	19861016
W: AU, DK, FI, JP, NO, US				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
AU 8664752	A1	19870505	AU 1986-64752	19861016
AU 590904	B2	19891123		
EP 242380	A1	19871028	EP 1986-906026	19861016
EP 242380	B1	19910403		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 63501078	T2	19880421	JP 1986-505483	19861016
JP 07051514	B4	19950605		
ES 2002532	A6	19880816	ES 1986-2624	19861016
AT 62135	E	19910415	AT 1986-906026	19861016
US 5254339	A	19931019	US 1987-70920	19870601
FI 8702647	A	19870615	FI 1987-2647	19870615
FI 86597	B	19920615		
FI 86597	C	19920925		
NO 8702484	A	19870615	NO 1987-2484	19870615
NO 168806	B	19911230		
NO 168806	C	19920408		
DK 8703029	A	19870814	DK 1987-3029	19870615
DK 165360	B	19921116		
DK 165360	C	19930405		

PRIORITY APPLN. INFO.:		
	SE 1984-5493	19841101
	EP 1985-850326	19851016
	EP 1986-906026	19861016
	WO 1986-SE480	19861016
	WO 1987-SE480	19870601

AB An immunogenic complex is prepd. by (1) mixing antigenic biol. material with a solubilizing agent to form a complex between the solubilizing agent and proteins or peptides in the material; (2) transferring the proteins or peptides from the complex with solubilizing agent to a soln. of a glycoside with which they formed a complex serving as a **carrier** mol.; (3) coupling .gtoreq. 1 antigens or haptens to the **carrier**. For example, envelope proteins from influenza virus strain PR8 were solubilized with 20% N-decanoyl-N-methylglucamine and sepd. from the core structure by centrifugation through 20% sucrose contg. the detergent at a concn. > than the crit. micellar concn. The collected proteins, with 0.1% Quil A (saponin) added to form a complex, were dialyzed against 0.9% NaCl and coupled to LH-RH with glutaraldehyde. Mice immunized with this LH-RH conjugate showed a strong immune response with no side effects.

L6 ANSWER 25 OF 30 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER:	1986:85012 HCAPLUS
DOCUMENT NUMBER:	104:85012
TITLE:	Clonal analysis of Escherichia **coli** O2:K1 isolated from diseased humans and animals
AUTHOR(S):	Achtman, Mark; Heuzenroeder, Michael; Kusecek, Barica; Ochman, Howard; Caugant, Dominique; Selander, Robert K.; Vaisanen-Rhen, Vuokko; Korhonen, Timo K.; Stuart, Simon; et al.
CORPORATE SOURCE:	Max-Planck-Inst. Mol. Genet., Berlin, Fed. Rep. Ger.
SOURCE:	Infection and Immunity (1986), 51(1), 268-76 CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB Forty-six E. **coli** isolates of serotype O2:K1 from human urinary tract infections, chicken sepsis, and **bovine** mastitis were obtained from labs. in England, Denmark, Sweden, and Finland. The bacteria were compared for **outer membrane protein** (**OMP**) pattern, **lipopolysaccharide** pattern, electrophoretic mobilities of enzymes, and flagellar serotype and were tested for fimbriation, biotype, hydroxamate prodn., hemolysin prodn., antibiotic resistance, plasmid content, colicin prodn., and virulence in neonatal rats. Isolates from humans were assigned to 2 clonal groups; poultry isolates belonged to 1 of these clonal groups, whereas **bovine** isolates belonged to the other. Poultry and human isolates of the same clonal group could be distinguished only by their plasmid content. Strains within this group were heterogeneous with respect to biotype, fimbriation, virulence, and flagellar serotype. Human and **bovine** isolates of the 2nd clonal group were distinguished by a minor change in **OMP** pattern and by their plasmid content. Thus, meaningful clonal groupings are best recognized by the combination of **OMP** and electrophoretic enzyme patterns. The O:K serotype can aid in the recognition of important subclones, whereas the other microbiol. properties tested can vary widely within clonal groupings. Certain

O:K serotypes can contain very different clonal groupings with little genetic relatedness.

L6 ANSWER 26 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1985:130112 HCAPLUS
DOCUMENT NUMBER: 102:130112
TITLE: Naturally occurring antibodies in human serums that react with the iron-regulated **outer membrane proteins** of Escherichia **coli**
AUTHOR(S): Griffiths, Elwyn; Stevenson, Pauline; Thorpe, Robin; Chart, Henrik
CORPORATE SOURCE: Natl. Inst. Biol. Stand. Control, London, NW3 6RB, UK
SOURCE: Infection and Immunity (1985), 47(3), 808-13
CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Sera from normal healthy human adults and infants, as well as sera from mice, rabbits, and guinea **pigs**, were examd. by immunoblotting for naturally occurring antibodies reacting with **outer membrane proteins** of 2 E. **coli** strains, O111 and O18. Some individuals had antibodies reacting very strongly with the Fe-regulated **outer membrane proteins**, including the ferric-enterochelin receptor protein (mol. wt. 81,000), as well as with **outer membrane protein** A (ompA). However, sera from infants contained predominantly antibodies to ompA; antibodies recognizing the Fe-regulated **outer membrane proteins** were either absent or barely detectable. In human serum, the antibodies were mainly of the IgG class. No serotype-specific antibodies to the **lipopolysaccharide** of E. **coli** O111 or O18 were found in the sera tested.

L6 ANSWER 27 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1982:437223 HCAPLUS
DOCUMENT NUMBER: 97:37223
TITLE: Studies of the immunological activities of the **outer membrane protein** from Escherichia **coli**
AUTHOR(S): Mohri, S.; Watanabe, T.; Nariuchi, H.
CORPORATE SOURCE: Inst. Med. Sci., Univ. Tokyo, Tokyo, 108, Japan
SOURCE: Immunology (1982), 46(2), 271-80
CODEN: IMMUAM; ISSN: 0019-2805
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The **outer membrane protein** (**OMP**) prepd. from E. **coli** was a potent mitogen for murine B cells and was capable of inducing polyclonal antibody formation as well as a proliferative response. Spleen cells from nude mice responded equally well to **OMP** as those from their normal littermates, whereas nylon wool-purified T cells or thymocytes failed to respond. The proliferative response was dependent on the presence of macrophages. The macrophage dependency of the polyclonal antibody response seemed to be less than that of the proliferation. **OMP** was mitogenic for **lipopolysaccharide** (**LPS**)-resistant C3H/HeJ spleen

cells, further indicating that **OMP** is an unique B-cell mitogen distinct from **LPS**. **OMP** also enhanced the specific antibody response 67-fold to an optimal dose of **sheep** red blood cells (SRBC) in vitro. The kinetics of the response however, was not altered from that of cultures without **OMP**. The anti-SRBC response of spleen cells from C3H/HeJ mice was also enhanced by the addn. of **OMP**, suggesting that the adjuvant effects were not due to the **LPS** in the prepn. Antibody responses in vitro to TI-1 antigens, trinitrophenyl-**LPS** (Boivin) (TNP-LPSB) and TNP-Brucella abortus, were not enhanced in the presence of **OMP**. In contrast, **OMP** enhanced the response to TI-2 antigens, TNP-LPSW (Westphal) and dinitrophenyl-Ficoll, and T cells were required for these augmented antibody responses. Enhancement was not seen in nude mouse spleen cell cultures but was seen when nylon wool-purified T cells were added to the cultures.

L6 ANSWER 28 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1982:160578 HCAPLUS
DOCUMENT NUMBER: 96:160578
TITLE: The role of components of the outer membrane of Gram-negative bacteria in the serum-bactericidal effect
AUTHOR(S): Clas, F.; Loos, M.
CORPORATE SOURCE: Inst. Med. Mikrobiol., Johannes Gutenberg-Univ., Mainz, D-6500, Fed. Rep. Ger.
SOURCE: Protides of the Biological Fluids (1982), Volume Date 1981, 29th, 317-20
CODEN: PBFPA6; ISSN: 0079-7065
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Effective killing capacity of normal human and guinea **pig** sera depended on Ca++, and complement (C) C1q, C2, and C4. Fixation and transfer tests revealed that C1 and C1q were bound more tightly to the serum-sensitive R-forms of **Salmonella** strains than to the serum-resistant S-forms. Since all expts. were done in the absence of antibodies these findings provide evidence that the antibody-independent C1-binding is one of the initial reactions of the serum-mediated killing. This reaction seems to be influenced by the sugar-portion of the **lipopolysaccharide** (**LPS**) of the outer membrane: C1-binding to the bacteria occurs with the higher affinity the shorter the **LPS** mol. This indicates that other outer membrane structures, besides **LPS**, such as membrane proteins are available on core-deficient mutants of gram-neg. bacteria and influence the interaction with C1. A direct interaction of C1 with isolated **outer membrane protein** of Proteus mirabilis was demonstrated indicating that the **outer membrane proteins** serve as addnl. binding sites for C1.

L6 ANSWER 29 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1981:81951 HCAPLUS
DOCUMENT NUMBER: 94:81951
TITLE: Immunological properties of the cell envelope components of Vibrio cholerae
AUTHOR(S): Kabir, S.; Mann, P.
CORPORATE SOURCE: Sch. Med., Johns Hopkins Univ., Baltimore, MD, 21224, USA

SOURCE: Journal of General Microbiology (1980), 119(2), 517-25
CODEN: JGMIAN; ISSN: 0022-1287
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Killed whole V. cholerae, spheroplasts, **lipopolysaccharides**, and **outer membrane proteins** possessed mitogenic activity as detd. by thymidine-3H uptake in spleen cell cultures. All these components predominantly stimulated murine B-lymphocytes. V. cholerae **Lipopolysaccharide** induced mitogenicity that was similar in magnitude to that obsd. with **Salmonella typhimurium** **lipopolysaccharide**, and was mitogenic for gut-assocd. lymphocytes such as those obtained from Peyer's patches and small intestine. Antibody formation at the cellular level was detected by the hemolytic plaque assay. Plaque-forming cells to V. cholerae **lipopolysaccharide** were only detected when mice were immunized i.p. with intact cells or with spheroplasts. Among the various cell envelope components, **lipopolysaccharide** alone possessed adjuvant properties, as it increased the no. of plaque-forming cells to **sheep** erythrocytes 4-fold in mouse spleens. **Lipopolysaccharide** was the only component which was toxic to the mouse (LD50 0.5 mg).

L6 ANSWER 30 OF 30 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1979:609136 HCAPLUS
DOCUMENT NUMBER: 91:209136
TITLE: Immunofluorescent detection of the major **outer membrane protein** II* in Escherichia **coli** O26K60
AUTHOR(S): Hofstra, Harmen; Van Tol, Maarten J. D.; Dankert, Jacob
CORPORATE SOURCE: Dep. Hosp. Infect., Univ. Hosp., Groningen, Neth.
SOURCE: FEMS Microbiology Letters (1979), 6(3), 147-50
CODEN: FMLED7; ISSN: 0378-1097
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An antiserum prepd. against purified protein II* of E. **coli** O26K60 agglutinated cells at a 1:60 diln. compared with 1:5,000 to 1:10,000 for antiserums prepd. against whole cells. Absorption of the latter antiserum with **lipopolysaccharide** (**LPS**) reduced the agglutination titer to 1:160. Bacteria treated with the antiserum to protein II* exhibited weak fluorescence at the periphery of the cells after exposure to fluorescein isothiocyanate (FITC)-conjugated **goat** anti-rabbit Ig serum; this weak fluorescence was strengthened when sheared cells were used. Apparently, antibodies to protein II* are able to bend the outermost layer of the cell wall but are probably interfered with by the **LPS** layer covering the outer membrane.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO, CABA, AGRICOLA, VETU, VETB' ENTERED AT 12:38:16 ON 24 JUN 2003)
L7 22 S L4
L8 204 S L5
L9 21 S L8 AND PORIN
L10 42 S L7 OR L9

L11 32 DUP REM L10 (10 DUPLICATES REMOVED)

L11 ANSWER 1 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-657510 [70] WPIDS
DOC. NO. CPI: C2002-184497
TITLE: Novel gram-negative bacterial bleb presenting on its surface PorB **outer membrane protein** from Chlamydia trachomatis or protective antigen from Chlamydia pneumoniae, useful for preventing Chlamydia infection.
DERWENT CLASS: B04 D16
INVENTOR(S): BERTHET, F J; LOBET, Y; POOLMAN, J; VERLANT, V G C L
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 99
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002062380	A2	20020815	(200270)*	EN	75

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002062380	A2	WO 2002-EP1356	20020208

PRIORITY APPLN. INFO: GB 2001-3169 20010208
AN 2002-657510 [70] WPIDS
AB WO 200262380 A UPAB: 20021031
NOVELTY - A gram-negative bacterial bleb (I) presenting on its surface the PorB **outer membrane protein** from Chlamydia trachomatis, or a protective antigen from C. pneumoniae, is new.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a vaccine composition (II) comprising (I) and a pharmaceutically suitable excipient or **carrier**.
ACTIVITY - Antibacterial.
No biological data is given.
MECHANISM OF ACTION - Vaccine (claimed).
USE - (II) is useful for preventing C. trachomatis or C. pneumoniae infection in a host (claimed).
Dwg.0/0

L11 ANSWER 2 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-557722 [59] WPIDS
DOC. NO. CPI: C2002-158349
TITLE: Composition for treating animal for high somatic cell count and reducing fecal shedding of microbe in intestinal tract of animal has two

siderophore receptors and
porins of gram negative microbe and
lipopolysaccharide.

DERWENT CLASS: B04 C03 D16
INVENTOR(S): EMERY, D A; KALLEVIG, G K; STRAUB, D E; ZAMMERT, D E
PATENT ASSIGNEE(S): (EMER-I) EMERY D A; (KALL-I) KALLEVIG G K; (STRA-I) STRAUB D E; (ZAMM-I) ZAMMERT D E; (WILL-N) WILLMAR POULTRY CO INC
COUNTRY COUNT: 97
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002053180	A2	20020711	(200259)*	EN	83

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

US 2003036639 A1 20030220 (200316)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002053180	A2	WO 2002-US188	20020103
US 2003036639	A1 Provisional	US 2001-259504P	20010103
	Provisional	US 2001-262896P	20010119
		US 2002-38504	20020103

PRIORITY APPLN. INFO: US 2001-262896P 20010119; US 2001-259504P 20010103; US 2002-38504 20020103

AN 2002-557722 [59] WPIDS

AB WO 200253180 A UPAB: 20020916
NOVELTY - A composition (I) comprising at least two **siderophore receptor** polypeptides (SRPs) isolated from a gram negative microbe (II), at least two **porins** isolated from (II), and **lipopolysaccharide** (**LPS**) at a concentration not greater than about 10.0 endotoxin unit/ml (EU/ml), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) inducing (M1) the production of antibody in an animal, by administering a composition comprising at least four SRPs isolated from a gram positive microbe and a pharmaceutically acceptable **carrier** to the animal; and

(2) isolating (M2) outer membrane polypeptides, by providing (II), disrupting (II) in a buffer, solubilizing the disrupted (II), and isolating molecules of (II), where the isolated molecules comprise outer membrane polypeptides comprising at least two SRPs and at least two **porins**, and **LPS** at a concentration not greater than about 10.0 EU/ml.

ACTIVITY - Antiinflammatory; Antimicrobial.

MECHANISM OF ACTION - Vaccine.

The efficacy of a **Salmonella dublin** vaccine consisting of **Siderophore receptor** proteins (SRPs) and **porins** was carried out against a live virulent challenge in mice. Sixty female CF-1 mice weighing 16-22 g were equally distributed into 6 polycarbonate mouse cages designated as groups 1-6. The composition including **siderophore receptor** proteins and **porins** was prepared as a protein suspension (77.5 ml) emulsified to give a final dose of 125 mu g total protein in a 0.25 ml injectable volume at a 22.5% v/v adjuvant concentration. The mouse dose was adjusted to a field dose of 1 mg/2 ml. Potency of the vaccine was tested at four different concentrations: non-diluted (Group 1), 1:10 (Group 2), 1:100 (Group 3) and 1:1000 (Group 4) compared to two control groups, a non vaccinated challenged group (Group 5) and a non-vaccinated challenge group (Group 6). Mice were vaccinated intraperitoneally and revaccinated 14 days after first vaccination with 0.25 cc. Fourteen days after the second vaccination, mice in groups 1-5 were intraperitoneally challenged with 1.7 multiply 108 colony forming units (CFU) of a virulent S.**dublin** isolate. Mortality was recorded daily for 2 weeks post-challenge. Ten (100%) of the non-vaccinated mice (Group 5) died within 14 days after challenge. In contrast, none of the mice died given the non-diluted vaccine of group 1. All dilutions of the test vaccine showed a high degree of protection as compared to the non-vaccinated/challenged mice of Group 5. None of the mice died in group 6 showing no horizontal transmission of the organism between the groups.

USE - (I) is useful for inducing the production of antibody in an animal e.g. **avian, bovine, caprine, porcine** or **ovine,** for treating an animal for a high somatic cell count, for reducing fecal shedding of a microbe in an animal's intestinal tract, for treating an animal for low milk production, and for treating mastitis and metritis in a milk producing animal (claimed). (I) is useful for treating a condition associated with a microbial infection.

Dwg.0/10

L11 ANSWER 3 OF 32 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2002-315046 [35] WPIDS

DOC. NO. CPI: C2002-091572

TITLE: Novel vaccine for preventing, treating infectious diseases caused by virus, fungi, protozoa and bacteria, has a **carrier** strain having membrane vesicle of a microorganism integrated into cell surface of **carrier** strain.

DERWENT CLASS: B04 B07 C06 D16

INVENTOR(S): BEVERIDGE, T J; KADURUGAMUWA, J L

PATENT ASSIGNEE(S): (BEVE-I) BEVERIDGE T J; (KADU-I) KADURUGAMUWA J L

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2002028215	A1	20020307	(200235)*		62

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

US 2002028215 A1 US 1999-370860 19990809

PRIORITY APPLN. INFO: US 1999-370860 19990809
AN 2002-315046 [35] WPIDS
AB US2002028215 A UPAB: 20020603
NOVELTY - A vaccine (I) against an infectious disease caused by an infectious agent comprising a **carrier** strain having a membrane vesicle (MV) of a microorganism integrated into the cell surface of the **carrier** strain, where MV has an amount of an antigen associated with its surface which is effective to provide protection against the infectious agent, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a pharmaceutical composition (II) comprising a MV of a microorganism containing one or more enzymes with peptidoglycan hydrolase, lipase and proteolytic activity in an amount effective to have a bactericidal effect on gram-negative and/or gram-positive bacterial pathogens;

(2) a drug delivery system comprising a MV of a microorganism containing a therapeutic agent in an amount effective to introduce the therapeutic agent into a host; and

(3) inserting (III) a nucleic acid molecule into a target cell which comprises encapsulating the nucleic acid in a MV of a microorganism, and bringing the MV in contact with the cell.

ACTIVITY - Antibacterial; Virucide; Fungicide; Protozoacide; Anti-HIV.

MECHANISM OF ACTION - Vaccine. Six-to seven week old female BALB/c mice were immunized orally through a gavage tube, with 0.3 ml of one of the test vaccines: Ty21a (2 multiply 108 colony forming unit (CFU)/ml), PAO1 MVs (100 micro g protein/ml), M90T MVs (100 fig protein/ml), Ty21a (2 multiply 108 CFU/ml)+M90TMVs (at 100 micro g protein/ml), Ty21a (2 multiply 108 CFU/ml)+PAO1 MVs (100 micro g/ml), Ty21a (2 multiply 108 CFU/ml)+PAO1 MVs+ M90T MVs (at 100 micro g protein/ml), and a control group with 0.3 ml sterile phosphate buffered saline (PBS). All vaccines were suspended immediately before immunization in 3% NaHCO3 in phosphate buffered saline (PBS) at pH 8.0, and given four times at one week intervals. One week after the final immunization, mice were sacrificed, bled and the serum was collected. MVs-specific antibodies in serum and mucosal washes, were determined. Immunization of mice with PAO1 MVs alone elicited a higher antigen-specific antibody response in serum and lung than in the group immunized with the Ty21a **carrier** strain with integrated PAO1 MVs. In contrast, M80T-specific antibody titers in both serum and gut washes were higher when M90T MVs were delivered after integration into the **carrier** strain. These titers declined when PAO1 MVs were incorporated into the Ty21a+M90T MV construct. In separate experiments, a decrease was observed in viable Ty21a cells with 0.5 hours following integration of PAO1 MVs into Ty21a. A reduction in viable Ty21a cells was also observed when M90T MVs were added to the **carrier** strain. However, this reduction was only 5% as opposed to 40% by PAO1 MVs. Even with the reduction in cell numbers, clear immune responses were seen in the mice. Serum or mucosal samples in which specific immunoglobulins could be detected by enzyme linked immunosorbent assay (ELISA) were next analyzed by Western blotting to determine whether the induced antibodies were directed against **lipopolysaccharide** (**LPS**) or protein antigens. The antibody response to M90T MVs

was weak with barely detectable bands on Western blots. Immunoblotting of non-deproteinized samples with serum, lung, or gut washes revealed several immunoreactive protein-specific antibody responses to the PAO1 and M90T vaccine constructs. On these immunoblots, the **LPS**-specific antibody response was also visible for both PAO1 and M90T. The antibody response to the **carrier** strain, Ty21a, was mainly protein-specific. This study confirmed that highly specific antigenic factors from two gram negative pathogens (P.aeruginosa and S.flexneri) when introduced into an attenuated **Salmonella** strain (Ty21a) by the MV-fusion technique, induced humoral and mucosal responses against the introduced antigens.

USE - (II) is useful for treating an infectious disease caused by a gram-negative and/or gram-positive bacterial pathogen. (III) is useful for inserting a nucleic acid molecule encoding a protein which is endogenous or exogenous to a microorganism, preferably a mammalian, viral, fungal or protozoal protein, into a target cell (claimed). (I) is useful for the prophylaxis or active immunization and treatment of infectious diseases caused by microorganisms which produce natural MVs, including viruses such as human immonodeficiency virus (HIV), adenovirus, Herpes simplex, measles, simian immunodeficiency virus, fungi such as Histoplasma capsulatum, Cryptococcus neoformans, Blastomyces dermatitidis, Candida albicans, protozoa such as Leishmania mexicana, Plasmodium falciparum and Toxoplasma gondii, and, gram-positive bacteria such as Streptococcus mutans, and S.pneumoniae, gram-negative pathogens such as E. **coli**, Proteus vulgaris, Serratia marscens, Klebsiella pneumoniae and Pseudomonas aeruginosa. Impermeable antimicrobial agents such as gentamicin can be introduced into epithelial cells using gentamicin-induced MV from Shigella flexneri. Thus, the MV can be used for the delivery of antimicrobial agents into a host. MVs are useful for preparing antibodies which may be used as a passive immunization.

ADVANTAGE - MVs are prepared simply and they readily fuse to **carrier** strains without complicated mixing formulations. The fusion is thermodynamically stable. The use of MVs also permits the simultaneous expression of multiple protective antigens (e.g. **LPS** and **outer membrane proteins** (**OMPs**)) from a number of pathogens in a single **carrier** strain, and this multivalent **carrier** strain then delivers the heterologous antigens to the immune system. This is an economical method for inducing protective immunity against a range of serotypes or antigenic variants by fusion of MVs from such pathogens.

Dwg.0/27

L11 ANSWER 4 OF 32 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER:	2003-339005 [32] WPIDS
DOC. NO. CPI:	C2003-088745
TITLE:	Prophylactic vaccine against disease caused by gram negative bacteria and production thereof.
DERWENT CLASS:	B04 D16
INVENTOR(S):	AHN, D H; HA, S H; JUN, H S; KIM, J S; KIM, Y H; LEE, G H; LEE, N G; LEE, N J; PARK, W J
PATENT ASSIGNEE(S):	(CJCJ-N) CJ CORP
COUNTRY COUNT:	1
PATENT INFORMATION:	

PATENT NO	KIND	DATE	WEEK	LA	PG
KR 2002085283 A		20021116	(200332)*		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
KR 2002085283 A		KR 2001-24707	20010507

PRIORITY APPLN. INFO: KR 2001-24707 20010507
AN 2003-339005 [32] WPIDS
AB KR2002085283 A UPAB: 20030522
NOVELTY - A process of preparing a prophylactic vaccine containing detoxified O-**lipopolysaccharide**-defect modified **lipopolysaccharide** as an antigen component and an **outer membrane protein** of gram negative bacteria as a **carrier** component is provided. Whereby, the vaccine is very effective in prevention of disease caused by gram negative bacteria, in particular, endotoxemia.
DETAILED DESCRIPTION - This prophylactic vaccine is prepared by the following process consisting of: separating **lipopolysaccharide** from Escherichia **coli** J5 strains or E.**coli** CFCEC 97415 strains and then purifying; detoxifying the **lipopolysaccharide** obtained from the above process; separating an **outer membrane protein** from gram negative bacteria and purifying; and then mixing the **lipopolysaccharide** and **outer membrane protein**.
Dwg.0/0

L11 ANSWER 5 OF 32 MEDLINE
ACCESSION NUMBER: 2002636315 MEDLINE
DOCUMENT NUMBER: 22278074 PubMed ID: 12390352
TITLE: Expression of foreign LpxA acyltransferases in Neisseria meningitidis results in modified lipid A with reduced toxicity and retained adjuvant activity.
AUTHOR: Steeghs Liana; Berns Mariska; ten Hove Jan; de Jong Ad; Roholl Paul; van Alphen Loek; Tommassen Jan; van der Ley Peter
CORPORATE SOURCE: Laboratory of Vaccine Research, National Institute of Public Health and the Environment (RIVM), Antonie van Leeuwenhoeklaan 9, PO Box 1, 3720 BA Bilthoven, The Netherlands.. liana.steeghs@rivm.nl
SOURCE: CELLULAR MICROBIOLOGY, (2002 Sep) 4 (9) 599-611. Journal code: 100883691. ISSN: 1462-5814.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200211
ENTRY DATE: Entered STN: 20021026
Last Updated on STN: 20021211
Entered Medline: 20021121
AB A major problem in the development of vaccines against Gram-negative bacteria is the endotoxic -activity of **lipopolysaccharide** (**LPS**), which is determined by its lipid A moiety.

Nevertheless, **LPS** would be an interesting vaccine component because of its immune-stimulating properties. In the present study, we have changed the fatty acid composition of Neisseria meningitidis **LPS** by replacing the lpxA gene of strain H44/76 with the Escherichia **coli** or Pseudomonas aeruginosa homologue. The majority of the O-linked 3-OH C12 in N. meningitidis lipid A was replaced by 3-OH C14 (strain HA01E) and 3-OH C10 (strain HA25P) respectively. Both strains, but most notably strain HA01E, had reduced amounts of **LPS** compared with the wild-type strain. In addition, growth was severely impaired for HA01E. The major **outer membrane proteins** were expressed normally. Outer membrane complexes of both strains normalized on their **LPS** content showed a 10-fold reduction in their ability to induce tumour necrosis factor (TNF)-alpha. Immunogenicity studies in BALB/c mice revealed that the adjuvant activity of the **LPS** was not affected. Thus, the replacement of the O-linked fatty acids in meningococcal lipid A results in immunogenic outer membranes with reduced endotoxic activity, more suitable for use in outer membrane vesicle vaccines.

L11 ANSWER 6 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-397852 [42] WPIDS
DOC. NO. CPI: C2001-120908
TITLE: Vaccinating **birds** by injection of sustained release implants into the egg provides immunity against infectious diseases to young chicks which is not compromised by maternal antibodies.
DERWENT CLASS: B04 C06 D16 P14 P32
INVENTOR(S): EMERY, D A; STRAUB, D E
PATENT ASSIGNEE(S): (WILL-N) WILLMAR POULTRY CO INC; (EMER-I) EMERY D A; (STRA-I) STRAUB D E
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001037810	A2	20010531	(200142)*	EN	18

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

AU 2001017903	A	20010604	(200153)	
US 2002034530	A1	20020321	(200224)	
EP 1233759	A2	20020828	(200264)	EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001037810	A2	WO 2000-US32080	20001121
AU 2001017903	A	AU 2001-17903	20001121
US 2002034530	A1	US 1999-449271	19991124

EP 1233759 A2 EP 2000-980673 20001121
WO 2000-US32080 20001121

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001017903 A	Based on		WO 200137810
EP 1233759	A2 Based on		WO 200137810

PRIORITY APPLN. INFO: US 1999-449271 19991124
AN 2001-397852 [42] WPIDS
AB WO 200137810 A UPAB: 20021031
NOVELTY - Administering an agent to a **bird** (M1), comprising administering to an egg a biocompatible implant releasably containing the agent, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) inducing active immunity in a **bird** against an immunogen, comprising injecting a biocompatible implant releasably containing the immunogen into an egg; and

(2) preparing a microsphere containing an antigen, comprising:
(a) combining a pore-forming agent and a density stabilizer;
(b) combining a solid matrix and a portion of an antigen;
(c) combining the mixtures of (a) and (b);
(d) combining the mixture of (c) with a second portion of the antigen; and
(e) forming microspheres from the mixture of (d).

ACTIVITY - Antiviral; antibacterial; antifungal; immunostimulant.

100 embryonated turkey poult eggs at 20 days of embryogenesis were disinfected with 70% isopropanol at the air sac end and a hole drilled in the center using a 1/16 inch carbide tipped bit. Each embryo was injected with 0.25cc microspheres containing 500 mu g SRP-**Porin** antigen from Escherichia **coli** parallel to the longitudinal axis of the egg at a depth of 1 1/2 inches using a 1 3/4 inch stainless steel 21 gauge needle. After inoculation holes were sealed with superglue and the eggs returned to incubation. At 24 days eggs were removed from the incubator and placed in a commercial hatcher along with the remaining sister eggs. 86% in ovo vaccinated eggs hatched compared to 89% of sister eggs. None of the in ovo vaccinated poults appeared to have any adverse effects from the injection. 15 of the **birds** were euthanized by carbon dioxide and the injection site was examined. Sites having implant material were found in 11 of the **birds**, ranging from the upper to lower neck to the upper back. If the **birds** were representative of the 86 that hatched, vaccination was 73% successful.

No supporting data given.

MECHANISM OF ACTION - Vaccine.

USE - The invention is used to vaccinate young **birds**, particularly turkey, chicken, duck, goose, ostrich and pheasant chicks.

ADVANTAGE - The method provides a means to vaccinate a chick whilst avoiding the interfering effect of maternal antibodies encountered with prior art methods. The prolonged release system also reduces the need to frequently handle young **birds** necessary in the repeat administrations needed in prior art.

Dwg.0/3

L11 ANSWER 7 OF 32 MEDLINE
ACCESSION NUMBER: 2002014602 MEDLINE
DOCUMENT NUMBER: 21306936 PubMed ID: 11414367
TITLE: Mannose-binding lectin: targeting the microbial world for complement attack and opsonophagocytosis.
AUTHOR: Jack D L; Klein N J; Turner M W
CORPORATE SOURCE: Immunobiology Unit, Institute of Child Health, University College London, UK.
SOURCE: IMMUNOLOGICAL REVIEWS, (2001 Apr) 180 86-99. Ref: 99
Journal code: 7702118. ISSN: 0105-2896.
PUB. COUNTRY: Denmark
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, ACADEMIC)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 20020121
Last Updated on STN: 20020121
Entered Medline: 20011207

AB Mannose-binding lectin (MBL) is an important constituent of the innate immune system. This protein binds through multiple lectin domains to the repeating sugar arrays that decorate many microbial surfaces, and is then able to activate the complement system through a specific protease called MBL-associated protease-2. We have used flow cytometry to study both the binding of MBL to microorganisms and the subsequent activation of complement. For selected Gram-negative organisms, such as **Salmonella** and Neisseria, we have examined the relative roles of **lipopolysaccharide** (**LPS**) structure and capsule in determining binding and conclude that the **LPS** is of major importance. Our results from studies with several clinically relevant organisms also show that MBL binding detected by flow cytometry leads to measurable activation of purified C4, suggesting that the bound lectin is capable of initiating opsonophagocytosis and/or bacterial lysis. There is an increasing literature suggesting that MBL deficiency, which mainly results from three relatively common single point mutations in exon 1 of the gene, predisposes both to infection by extracellular pathogens and to autoimmune disease. In addition, the protein also modulates disease severity, at least in part through a complex, dose-dependent influence on cytokine production. The mechanisms and signalling pathways involved in such processes remain to be elucidated.

L11 ANSWER 8 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-514762 [46] WPIDS
DOC. NO. CPI: C2000-153563
TITLE: A transdermal vaccine for inducing a protective or tolerogenic immune response on human or animal skin comprises a transdermal **carrier**, a compound which specifically releases or induces (anti-) cytokine activity and an antigen or allergen.
DERWENT CLASS: B04 B07 C06 D16
INVENTOR(S): CEVC, G; CHOPRA, A
PATENT ASSIGNEE(S): (IDEA-N) IDEA AG

COUNTRY COUNT: 34
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000044349	A1	20000803	(200046)*	EN	79
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: AU BR CA CN HU JP KR MX US					
EP 1031346	A1	20000830	(200047)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
AU 2000027988	A	20000818	(200057)		
EP 1146858	A1	20011024	(200171)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
BR 2000007749	A	20011113	(200201)		
EP 1031346	B1	20020502	(200230)	EN	
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI					
KR 2001112252	A	20011220	(200239)		
DE 69901377	E	20020606	(200245)		
CN 1342066	A	20020327	(200247)		
HU 2002000315	B	20020528	(200249)		
ES 2173678	T3	20021016	(200279)		
JP 2002535350	W	20021022	(200301)		93

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000044349	A1	WO 2000-EP597	20000126
EP 1031346	A1	EP 1999-101479	19990127
AU 2000027988	A	AU 2000-27988	20000126
EP 1146858	A1	EP 2000-906231	20000126
		WO 2000-EP597	20000126
BR 2000007749	A	BR 2000-7749	20000126
		WO 2000-EP597	20000126
EP 1031346	B1	EP 1999-101479	19990127
KR 2001112252	A	KR 2001-709479	20010727
DE 69901377	E	DE 1999-601377	19990127
		EP 1999-101479	19990127
CN 1342066	A	CN 2000-804453	20000126
HU 2002000315	B	WO 2000-EP597	20000126
		HU 2002-315	20000126
ES 2173678	T3	EP 1999-101479	19990127
JP 2002535350	W	JP 2000-595653	20000126
		WO 2000-EP597	20000126

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000027988	A	Based on	WO 200044349
EP 1146858	A1	Based on	WO 200044349
BR 2000007749	A	Based on	WO 200044349
DE 69901377	E	Based on	EP 1031346
HU 2002000315	B	Based on	WO 200044349
ES 2173678	T3	Based on	EP 1031346
JP 2002535350	W	Based on	WO 200044349

PRIORITY APPLN. INFO: EP 1999-101479 19990127
AN 2000-514762 [46] WPIDS
AB WO 200044349 A UPAB: 20000921
NOVELTY - A transdermal vaccine (I) comprising a transdermal **carrier**, a compound which specifically releases or induces (anti-) cytokine activity and a (mixture of) antigen or allergen, is new.

DETAILED DESCRIPTION - A transdermal vaccine comprises:
(a) a transdermal **carrier**;
(b) a compound which specifically releases or induces cytokine or anti-cytokine activity or exerts such an activity itself; and
(c) a (mixture of) antigen or allergen.

The transdermal **carrier** is a penetrant, suspended or dispersed in an aqueous solvent, in the form of a minute fluid droplet surrounded by a membrane like coating of one or several layers of at least two different substances or two different forms of a substance with the tendency to aggregate. The substances differ by at least a factor of 10 in solubility in a preferably aqueous , liquid medium, so that the average diameter of homoaggregates of the more soluble substances or heteroaggregates of both substances is smaller than the average diameter of the homoaggregates of the less soluble substance. The more soluble component tends to solubilize the penetrating droplet. The content of this component amounts to up to 99 mol-% of the concentration required to solubilize the droplet, or to 99 mol-% of the saturating concentration in the unsolubilized droplet, whichever is highest. The elastic deformation energy of the droplet surrounding the membrane like coating is at least 5 multiply lower, more preferably more than 10 multiply lower than that of the red blood cells or of the phospholipid bilayer with fluid aliphatic chains.

INDEPENDENT CLAIMS are also included for the following:
(1) a kit comprising, in a bottled or otherwise packaged form, at least one dose of (I); and
(2) generating a protective immune response on a mammal with (I).

ACTIVITY - Immunostimulant.
No supporting biological data given.
MECHANISM OF ACTION - Vaccine.
No supporting biological data given.
USE - For inducing a protective or tolerogenic immune response on human or animal skin (claimed).
ADVANTAGE - The vaccine provides immunization without local irritation.
Dwg.0/14

L11 ANSWER 9 OF 32 MEDLINE
ACCESSION NUMBER: 2000143863 MEDLINE
DOCUMENT NUMBER: 20143863 PubMed ID: 10679108
TITLE: Neutrophil activation by bacterial lipoprotein versus **lipopolysaccharide**: differential requirements for serum and CD14.
AUTHOR: Soler-Rodriguez A M; Zhang H; Lichenstein H S; Qureshi N; Niesel D W; Crowe S E; Peterson J W; Klimpel G R
CORPORATE SOURCE: Departments of Microbiology and Immunology, University of Texas Medical Branch, Galveston, TX 77555, USA.

SOURCE: JOURNAL OF IMMUNOLOGY, (2000 Mar 1) 164 (5) 2674-83.
Journal code: 2985117R. ISSN: 0022-1767.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200003
ENTRY DATE: Entered STN: 20000330
Last Updated on STN: 20000330
Entered Medline: 20000323

AB Neutrophil activation plays an important role in the inflammatory response to Gram-negative bacterial infections. **LPS** has been shown to be a major mediator of neutrophil activation which is accompanied by an early down-regulation of L-selectin and up-regulation of CD11b/CD18. In this study, we investigated whether lipoprotein (LP), the most abundant protein in the outer membrane of bacteria from the family Enterobacteriaceae, can activate neutrophils and whether this activation is mediated by mechanisms that differ from those used by **LPS** or Escherichia **coli** diphosphoryl lipid A (EcDPLA). Neutrophil activation was assessed by measuring down-regulation of L-selectin and up-regulation of CD11b/CD18. When comparing molar concentrations of LP vs EcDPLA, LP was more potent (four times) at activating neutrophils. In contrast to **LPS**/EcDPLA, LP activation of neutrophils was serum independent. However, LP activation of neutrophils was enhanced by the addition of soluble CD14 and/or **LPS**-binding protein. In the presence of serum, LP activation of neutrophils was inhibited by different mAbs to CD14. This inhibition was significantly reduced or absent when performed in the absence of serum. Diphosphoryl lipid A from Rhodobacter spheroides (RaDPLA) completely inhibited **LPS**/EcDPLA activation of neutrophils but only slightly inhibited LP activation of neutrophils. These results suggest that LP activation of human neutrophils can be mediated by a mechanism that is different from **LPS** activation and that LP is a potentially important component in the development of diseases caused by Gram-negative bacteria of the family Enterobacteriaceae.

L11 ANSWER 10 OF 32 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 2000151877 EMBASE
TITLE: Evidence for active efflux as the primary mechanism of resistance to ciproffoxacin in **Salmonella enterica** serovar **typhimurium**.
AUTHOR: Giraud E.; Cloeckaert A.; Kerboeuf D.; Chaslus-Dancla E.
CORPORATE SOURCE: E. Chaslus-Dancla, Stn. de Pathol. Aviaire Parasitol., Inst. Natl. Recherche Agronomique, Ctr. de Recherche de Tours-Nouzilly, 37380 Monnaie, France. chaslus@tours.inra.fr
SOURCE: Antimicrobial Agents and Chemotherapy, (2000) 44/5 (1223-1228).
Refs: 30
ISSN: 0066-4804 CODEN: AMACCQ
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
037 Drug Literature Index
LANGUAGE: English

SUMMARY LANGUAGE: English

AB The occurrence of active efflux and cell wall modifications were studied in **Salmonella enterica** serovar **Typhimurium** mutants that were selected with enrofloxacin and whose phenotypes of resistance to fluoroquinolones could not be explained only by mutations in the genes coding for gyrase or topoisomerase IV. Mutant BN18/21 exhibited a decreased susceptibility to ciprofloxacin (MIC = 0.125 .mu.g/ml) but did not have a mutation in the gyrA gene. Mutants BN18/41 and BN18/71 had the seine substitution, Gly81Cys in GyrA, but exhibited different levels of resistance to ciprofloxacin (MICs = 2 and 8 .mu.g/ml, respectively). None of the mutants had mutations in the parC gene. Evidence for active efflux was provided by a classical fluorimetric method, which revealed a three- to fourfold decrease in ciprofloxacin accumulation in the three mutants compared to that in the parent strain, which was annuled by addition of the efflux pump inhibitor carbonyl cyanide m-chlorophenylhydrazone. In mutant BN18/71, a second fluorimetric method also showed a 50% reduction in the level of accumulation of ethidium bromide, a known efflux pump substrate. Immunoblotting and enzyme-linked immunosorbent assay experiments with an anti-AcrA antibody revealed that the resistance phenotype was strongly correlated with the expression level of the AcrAB efflux pump and suggested that decreased susceptibility to ciprofloxacin due to active efflux probably related to overproduction of this pump could occur before that due to gyrA mutations. Alterations were also found in the **outer membrane protein** and **lipopolysaccharide** profiles of the mutants, and these alterations were possibly responsible for the decrease in the permeability of the outer membrane that was observed in the mutants and that could act synergistically with active efflux to decrease the level of ciprofloxacin accumulation.

L11 ANSWER 11 OF 32 SCISEARCH COPYRIGHT 2003 THOMSON ISI
ACCESSION NUMBER: 2000:625735 SCISEARCH
THE GENUINE ARTICLE: 343ZE
TITLE: The human gastric colonizer Helicobacter pylori: a challenge for host-parasite glycobiology
AUTHOR: Karlsson K A (Reprint)
CORPORATE SOURCE: UNIV GOTHENBURG, INST MED BIOCHEM, POB 440, S-40530 GOTHENBURG, SWEDEN (Reprint)
COUNTRY OF AUTHOR: SWEDEN
SOURCE: GLYCOBIOLOGY, (AUG 2000) Vol. 10, No. 8, pp. 761-771

Publisher: OXFORD UNIV PRESS, GREAT CLARENDON ST, OXFORD OX2 6DP, ENGLAND.
ISSN: 0959-6658.
DOCUMENT TYPE: General Review; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 134

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The Gram-negative bacterium Helicobacter pylori was first described in 1983 and currently represents one of the most active single research topics in biomedicine, It is specific for the human stomach and chronically colonizes a majority of the global population, which results in a symptom-free local inflammation. In 10-20 % of **carriers**, gastroduodenal disease develops,

including gastric or duodenal ulcer, and atrophic gastritis, which is a precondition to gastric cancer. A probable long coevolution of microbe and homo sapiens in a restricted niche has apparently generated a complex and sophisticated interplay, Access to complete bacterial genome sequences assists in a comparative functional characterization. ii dynamic glycosylation of both microbe and host cells is of growing interest to analyze, Several glycoforms of bacterial surface **lipopolysaccharides** show advanced molecular mimicry of host epitopes and a distinct phase variation. An unusually large family of 32 **outer membrane proteins** probably reflects the complex interrelationship with the host, The unique diversity found for carbohydrate-binding specificities may be mediated by these surface proteins, of which the Lewis b-binding adhesin is the only known example so far, and these binding activities are subject to phase variation, The host mucosa glycosylation may also vary with different conditions, allowing a modulated crosstalk between microbe and host, The bacterium actively stimulates the host inflammatory response, apparently for nutritional purposes, and there is no evidence for a spontaneous elimination of the microbe. Colonization appears to be preventive for upper stomach and esophagcal diseases. Current antibiotic treatment eradicates the microbe and cures ulcer disease. Alternative approaches must, however, be developed for a potential global prevention of disease.

L11 ANSWER 12 OF 32 MEDLINE
ACCESSION NUMBER: 2000411043 MEDLINE
DOCUMENT NUMBER: 20335020 PubMed ID: 10873859
TITLE: A conserved structural motif for **lipopolysaccharide** recognition by procaryotic and eucaryotic proteins.
AUTHOR: Ferguson A D; Welte W; Hofmann E; Lindner B; Holst O; Coulton J W; Diederichs K
CORPORATE SOURCE: Fakultat fur Biologie, Universitat Konstanz, Konstanz, Germany.
SOURCE: STRUCTURE WITH FOLDING & DESIGN, (2000 Jun 15) 8 (6) 585-92.
Journal code: 100889329. ISSN: 0969-2126.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: PDB-1QFF; PDB-1QFG
ENTRY MONTH: 200008
ENTRY DATE: Entered STN: 20000907
Last Updated on STN: 20021030
Entered Medline: 20000830

AB BACKGROUND: **Lipopolysaccharide** (**LPS**), a lipoglycan from the outer membrane of Gram-negative bacteria, is an immunomodulatory molecule that stimulates the innate immune response. High levels of **LPS** cause excessive release of inflammatory mediators and are responsible for the septic shock syndrome. The interaction of **LPS** with its cognate binding proteins has not, as yet, been structurally elucidated. RESULTS: The X-ray crystallographic structure of **LPS** in complex with the integral **outer membrane protein** FhuA from Escherichia **coli** K-12 is reported. It is in accord with data obtained using mass spectroscopy and nuclear

magnetic resonance. Most of the important hydrogen-bonding or electrostatic interactions with **LPS** are provided by eight positively charged residues of FhuA. Residues in a similar three-dimensional arrangement were searched for in all structurally known proteins using a fast template-matching algorithm, and a subset of four residues was identified that is common to known **LPS**-binding proteins. CONCLUSIONS: These four residues, three of which form specific interactions with lipid A, appear to provide the structural basis of pattern recognition in the innate immune response. Their arrangement can serve to identify **LPS**-binding sites on proteins known to interact with **LPS**, and could serve as a template for molecular modeling of a **LPS** scavenger designed to reduce the septic shock syndrome.

L11 ANSWER 13 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1999-120517 [10] WPIDS
DOC. NO. CPI: C1999-035210
TITLE: Composition suitable for mucosal delivery of antigen or vaccine - comprises adjuvant comprising substituted mono- and/or di glyceride(s) and at least one antigen.
DERWENT CLASS: A25 A96 B04 B07 C03 C06 C07 D16
INVENTOR(S): GIZURARSON, S; GUDMUNDSD TTIR, V; GUDMUNDSDOTTIR, V
PATENT ASSIGNEE(S): (LYFJ-N) LYFJA ROUN HF ICELANDIC BIO PHARM GROUP; (LYFJ-N) LYFJA ROUN HF; (LYFJ-N) LYFJATHROUN HF ICELANDIC BIO PHARM GROUP; (LYFJ-N) LYFJATHROUN HF REYKJAVIK ICELAND; (LYFJ-N) LYFJATHOUN HF
COUNTRY COUNT: 83
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9902186	A2	19990121	(199910)*	EN	44
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW					
AU 9884598	A	19990208	(199924)		
EP 1003551	A2	20000531	(200031)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV NL PT SE					
BR 9810568	A	20000919	(200050)		
CN 1262626	A	20000809	(200055)		
JP 2001509491	W	20010724	(200147)		64
KR 2001021622	A	20010315	(200159)		
AU 745849	B	20020411	(200237)		
US 6514503	B1	20030204	(200313)		
US 2003099659	A1	20030529	(200337)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9902186	A2	WO 1998-IS6	19980709
AU 9884598	A	AU 1998-84598	19980709
EP 1003551	A2	EP 1998-935262	19980709

			WO 1998-IS6	19980709
BR 9810568	A		BR 1998-10568	19980709
			WO 1998-IS6	19980709
CN 1262626	A		CN 1998-806966	19980709
JP 2001509491	W		WO 1998-IS6	19980709
			JP 2000-501776	19980709
KR 2001021622	A		KR 2000-700180	20000108
AU 745849	B		AU 1998-84598	19980709
US 6514503	B1		US 1998-112684	19980709
US 2003099659	A1	Cont of	US 1998-112684	19980709
			US 2002-195226	20020712

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9884598	A	Based on	WO 9902186
EP 1003551	A2	Based on	WO 9902186
BR 9810568	A	Based on	WO 9902186
JP 2001509491	W	Based on	WO 9902186
AU 745849	B	Previous Publ.	AU 9884598
		Based on	WO 9902186

PRIORITY APPLN. INFO: IS 1997-4518 19970709

AN 1999-120517 [10] WPIDS

AB WO 9902186 A UPAB: 19990310

Composition (C) comprises: (i) an adjuvant comprising 0.01-70% v/v of glycerides selected from substituted mono- and diglycerides and their mixtures of formula R1OCH2CH(CH2OR3)OR2 (I); (ii) at least one antigen (Ag); and (iii) optionally, a vehicle. R1-R3 = optionally saturated 6-24C fatty acids (FA), water soluble polymers (WSP) and mixtures of these; and provided that the glyceride contains at least one WSP. Also claimed is a method of delivering a bioactive agent to a plant comprising administering the bioactive agent and a composition comprising an adjuvant as in (i).

USE - (C) is useful as an adjuvant composition for the administration of antigens and vaccines, particularly for mucosal administration. The Ag in (C) may be used in the treatment of allergy, cancer, infectious disease, autoimmune disease (claimed) or a disease affected by the immune system. Ag may be a vaccine such as antibacterial, antiviral antifungal antiprion or antiparasitic vaccine or components produced by microorganisms such as IgA-proteases, Protein p38, Protein p43 or mucinase; allergen such as house dust mite, domestic cat allergen, rye grass pollen, short ragweed pollen, midge, egg white, milk protein, bee venom, white faced hornet allergen; components responsible for inducing autoimmune diseases such as myelin or insulin peptide B; vaccine for treating infectious diseases e.g. herpes, IIIV, pappiloma, candida, multiple sclerosis, or treatment of autoimmune diseases such as diabetes, hypo- and hyperthyroidism, psoriasis, arthritis or cancer. Ag may be e.g. tetanus t oxin, influenza virus, diphtheria toxoid, IgA-protease, insulin peptide B, vibriose, **salmonella**, Spongospora subterranea, respiratory syncytial virus (RSV), Haemophilus influenza **outer membrane proteins**, Helicobacter pylori urease and recombinant pilins of Neisseria meningitidis and N. gonorrohoeae or portions of these which can stimulate an immune response. Ag may also be all or part of a pathogenic microorganism, or all or part of a protein,

glycoprotein, glycolipid, polysaccharide or **lipopolysaccharide** which is associated with the organism. The method may be used to deliver bioactive agents, particularly herbicides, insecticides, fungicides, plant growth regulators, fertilisers, Ag's and vaccines to plants (claimed) and to stimulate the plants' immune defence system. (C) may be administered to mammals (particularly humans, including toddlers and elderly), birds and fish. Ag may be administered in combination with bacterial toxins and their attenuated derivatives as additional adjuvants or **carrier** molecules.

ADVANTAGE - (C) provides enhanced adhesion of Ag to the mucosal membrane and enhanced absorption of Ag through the mucus membrane. Use of (C) can provide a systemic and a local immune response without causing unacceptable irritation of the epithelial membrane. Effective vaccination can be achieved with a reduced quantity of Ag which may lead to more widespread use of vaccines which are difficult and costly to prepare. By reducing the amount of Ag, the risk of toxic reaction is reduced. (C) enables the use of an Ag- or vaccine formulation which is safe by mucosal route but toxic by parenteral route. Using the above adjuvants enhances the ability of Ag's which are weakly antigenic or poorly immunogenic, particularly when administered mucosally, to elicit an immune response. (C) provides a controlled delivery system for intranasal application, which is biocompatible with the mucus membrane and which administers the required amount of Ag's in a small volume.

Dwg.0/0

L11 ANSWER 14 OF 32 MEDLINE

ACCESSION NUMBER: 1999452705 MEDLINE
DOCUMENT NUMBER: 99452705 PubMed ID: 10521271
TITLE: Molecular mechanisms of interaction of rabbit CAP18 with outer membranes of gram-negative bacteria.
AUTHOR: Gutsmann T; Larrick J W; Seydel U; Wiese A
CORPORATE SOURCE: Department of Immunochemistry and Biochemical Microbiology, Center for Medicine and Biosciences, Research Center Borstel, Germany.
SOURCE: BIOCHEMISTRY, (1999 Oct 12) 38 (41) 13643-53. Journal code: 0370623. ISSN: 0006-2960.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199911
ENTRY DATE: Entered STN: 20000111
Last Updated on STN: 20000111
Entered Medline: 19991117

AB The mechanism of interaction of the cationic antimicrobial protein (18 kDa), CAP18, with the outer membrane of Gram-negative bacteria was investigated applying transmission electron microscopy and voltage-clamp techniques on artificial planar bilayer membranes. Electron micrographs of bacterial cells exposed to CAP18 showed damage to the outer membrane of the sensitive Escherichia **coli** strains F515 and ATCC 11775, whereas the membrane of the resistant Proteus mirabilis strain R45 remained intact. Electrical measurements on various planar asymmetric bilayer membranes, one side consisting of a phospholipid mixture and the other of different phospholipids or of **lipopolysaccharide** (reconstitution model of the outer membrane), yielded information

about the influence of CAP18 on membrane integrity. Addition of CAP18 to the side with the varying lipid composition led to lipid-specific adsorption of CAP18 and subsequent induction of current fluctuations due to the formation of transient membrane lesions at a lipid-specific clamp voltage. We propose that the applied clamp voltage leads to reorientation of CAP18 molecules adsorbed to the bilayer into an active transmembrane configuration, allowing the formation of lesions by multimeric clustering.

L11 ANSWER 15 OF 32 SCISEARCH COPYRIGHT 2003 THOMSON ISI
ACCESSION NUMBER: 1999:692223 SCISEARCH
THE GENUINE ARTICLE: 233DC
TITLE: Helicobacter pylori physiology predicted from genomic comparison of two strains
AUTHOR: Doig P (Reprint); deJonge B L; Alm R A; Brown E D; UriaNickelsen M; Noonan B; Mills S D; Tummino P; Carmel G; Guild B C; Moir D T; Vovis G F; Trust T J
CORPORATE SOURCE: ASTRAZENECA R&D BOSTON, 128 SIDNEY ST, CAMBRIDGE, MA 02139 (Reprint); GENOME THERAPEUT CORP, WALTHAM, MA
COUNTRY OF AUTHOR: USA
SOURCE: MICROBIOLOGY AND MOLECULAR BIOLOGY REVIEWS, (SEP 1999) Vol. 63, No. 3, pp. 675-&.
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171.
ISSN: 1092-2172.
DOCUMENT TYPE: General Review; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 155
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Helicobacter pylori is a gram-negative bacteria which colonizes the gastric mucosa of humans and is implicated in a wide range of gastroduodenal diseases. This paper reviews the physiology of this bacterium as predicted from the sequenced genomes of two unrelated strains and reconciles these predictions with the literature. In general, the predicted capabilities are in goad agreement with reported experimental observations. H. pylori is limited in carbohydrate utilization and will use amino acids, for which it has transporter systems, as sources of carbon. Energy can be generated by fermentation and the bacterium possesses components necessary for both aerobic and anaerobic respiration. Sulfur metabolism is limited, whereas nitrogen metabolism is extensive. There is active uptake of DNA via transformation and ample restriction-modification activities. The cell contains numerous **outer membrane proteins**, some of which are **porins** or involved in iron uptake. Some of these **outer membrane proteins** and the **lipopolysaccharide** may be regulated by a slipped-strand repair mechanism which probably results in phase variation and plays a role in colonization. In contrast to a commonly held belief that H. pylori is a very diverse species, few differences were predicted in the physiology of these two unrelated strains, indicating that host and environmental factors probably play a significant role in the outocme of H. pylori-related disease.

L11 ANSWER 16 OF 32 SCISEARCH COPYRIGHT 2003 THOMSON ISI
ACCESSION NUMBER: 1998:862437 SCISEARCH
THE GENUINE ARTICLE: 135QR

TITLE: Effects of the major Pasteurella multocida **porin** on **bovine** neutrophils

AUTHOR: Galdiero M (Reprint); Palomba E; De L; Vitiello M; Pagnini P

CORPORATE SOURCE: UNIV NAPLES FEDERICO II, FAC VET, DIPARTIMENTO PATOL PROFILASSI & ISPEZ ALIMENTI, I-80137 NAPLES, ITALY (Reprint); UNIV NAPLES 2, FAC MED & CHIRURG, IST MICROBIOL, I-80138 NAPLES, ITALY

COUNTRY OF AUTHOR: ITALY

SOURCE: AMERICAN JOURNAL OF VETERINARY RESEARCH, (OCT 1998) Vol. 59, No. 10, pp. 1270-1274.
Publisher: AMER VETERINARY MEDICAL ASSOC, 1931 N MEACHAM RD SUITE 100, SCHAUMBURG, IL 60173-4360.
ISSN: 0002-9645.

DOCUMENT TYPE: Article; Journal
FILE SEGMENT: AGRI
LANGUAGE: English
REFERENCE COUNT: 40

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Objective-To evaluate in vitro effect of the major fraction of **outer membrane proteins** of Pasteurella multocida with **porin**-like activities on same biological functions of **bovine** neutrophils.

Animals-Neutrophils from 5 adult **cattle**.

Procedure-Variations in such biological processes as actin polymerization and chemotaxis and evaluation of hydrogen peroxide attributable to variable concentrations of P multocida were recorded and compared. Data were obtained, using the **porin** and **lipopolysaccharide** (**LPS**) isolated from a strain of P multocida cultivated in brain-heart infusion (BHI) broth. Various concentrations of **porin** and **LPS** were analyzed to evaluate changes in functional activation and microbicidal activity of **bovine** neutrophils.

Results-The 37.5-kd major polypeptide of the outer membrane of P multocida was isolated. Presence. of this **porin** was significantly correlated with variations of some biological functions of **bovine** neutrophils. These immunocompetent cells had a concentration-dependent increase in actin polymerization and chemotactic activity. A concentration-dependent variation in the oxidative burst also was observed.

Conclusions-The **porins** of gram-negative bacteria affect several biological functions of cells involved in the immune response as well as in inflammation. Significant correlation of results of in vitro experiments also was identified between **porin** and **LPS** effect. Pretreatment of **bovine** neutrophils with various concentrations of **porin** always caused a concentration-dependent increase in examined biological activities.

L11 ANSWER 17 OF 32 MEDLINE

ACCESSION NUMBER: 1998194712 MEDLINE

DOCUMENT NUMBER: 98194712 PubMed ID: 9535089

TITLE: Modulations in lipid A and phospholipid biosynthesis pathways influence **outer membrane protein** assembly in Escherichia **coli** K-12.

AUTHOR: Kloser A; Laird M; Deng M; Misra R

CORPORATE SOURCE: S.C. Johnson Medical Research Center, Mayo Clinic,

Scottsdale, AZ, USA.
CONTRACT NUMBER: GM48167 (NIGMS)
SOURCE: MOLECULAR MICROBIOLOGY, (1998 Mar) 27 (5) 1003-8.
Journal code: 8712028. ISSN: 0950-382X.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199806
ENTRY DATE: Entered STN: 19980618
Last Updated on STN: 19980618
Entered Medline: 19980609

AB The assembly defect of a mutant **outer membrane protein**, OmpF315, can be corrected by suppressor mutations that lower **lipopolysaccharide** (**LPS**) levels and indirectly elevate phospholipid levels. One such assembly suppressor mutation, asmB1, is an allele of lpxC (envA) whose product catalyses the first rate-limiting step in the lipid A (**LPS**) biosynthesis pathway. Besides reducing **LPS** levels, asmB1 confers sensitivity to MacConkey medium. A mutation, sabA1, that reverses the MacConkey sensitivity phenotype of asmB1 maps within fabZ (whose product is needed for phospholipid synthesis from a precursor) is also required for lipid A synthesis. In addition to reversing MacConkey sensitivity, the sabA1 mutation reverses the OmpF315 assembly suppression phenotype of asmB1. These results show that OmpF315 assembly suppression by asmB1, which is achieved by lowering **LPS** levels, can be averted by a subsequent aberration in phospholipid synthesis at a point where the biosynthetic pathways for these two lipid molecules split. OmpF315 assembly suppression can also be achieved in an asmB+ background where FabZ expression is increased. The data obtained in this study provide genetic evidence that elevated phospholipid levels and/or phospholipid to **LPS** ratios are necessary for assembly suppression.

L11 ANSWER 18 OF 32 SCISEARCH COPYRIGHT 2003 THOMSON ISI
ACCESSION NUMBER: 97:523250 SCISEARCH
THE GENUINE ARTICLE: XJ182
TITLE: Use of the pre-pro part of Staphylococcus hyicus lipase as a **carrier** for secretion of Escherichia **coli outer membrane protein** A (OmpA) prevents proteolytic degradation of OmpA by cell-associated protease(s) in two different gram-positive bacteria
AUTHOR: Meens J; Herbort M; Klein M; Freudl R (Reprint)
CORPORATE SOURCE: KFA JULICH GMBH, FORSCHUNGSZENTRUM, INST BIOTECHNOL 1, POSTFACH 1913, D-52425 JULICH, GERMANY (Reprint); KFA JULICH GMBH, FORSCHUNGSZENTRUM, INST BIOTECHNOL 1, D-52425 JULICH, GERMANY
COUNTRY OF AUTHOR: GERMANY
SOURCE: APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (JUL 1997) Vol. 63, No. 7, pp. 2814-2820.
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171.
ISSN: 0099-2240.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: English

REFERENCE COUNT: 53
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Heterologous protein secretion was studied in the gram-positive bacteria Bacillus subtilis and Staphylococcus carnosus by using the Escherichia **coli outer membrane protein** OmpA as a model protein. The OmpA protein was found to be translocated across the plasma membrane of both microorganisms, However, the majority of the translocated OmpA was similarly degraded in B. subtilis and S. carnosus despite the fact that the latter organism does not secrete soluble exoproteases into the culture medium. The finding that purified OmpA, which was added externally to the culture medium of growing S. carnosus cells, remained intact indicates that newly synthesized and exported OmpA is degraded by one or more cell-associated proteases rather than by a soluble exoprotease. Fusion of the mature part of OmpA to the pre-pro part of a lipase from Staphylococcus hyicus allowed the efficient release of the corresponding propeptide-OmpA hybrid protein into the supernatant and completely prevented the cell-associated proteolytic degradation of the mature OmpA, most likely reflecting an important function of the propeptide during secretion of its natural mature lipase moiety, The relevance of our findings for the biotechnological use of gram positive bacteria as host organisms for the secretory production of heterologous proteins is discussed.

L11 ANSWER 19 OF 32 MEDLINE
ACCESSION NUMBER: 95310030 MEDLINE
DOCUMENT NUMBER: 95310030 PubMed ID: 7790087
TITLE: Enhancement of uptake of **lipopolysaccharide** in macrophages by the major **outer membrane protein** OmpA of gram-negative bacteria.
AUTHOR: Korn A; Rajabi Z; Wassum B; Ruiner W; Nixdorff K
CORPORATE SOURCE: Department of Microbiology, University of Darmstadt, Germany.
SOURCE: INFECTION AND IMMUNITY, (1995 Jul) 63 (7) 2697-705. Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199507
ENTRY DATE: Entered STN: 19950807
Last Updated on STN: 19980206
Entered Medline: 19950727

AB Monoclonal antibodies (MAb) to **lipopolysaccharide** (**LPS**) and to the major **outer membrane protein** OmpA from Proteus mirabilis were generated and used to monitor the kinetics of uptake in macrophages of **LPS** as well as **LPS** bound to OmpA. Uptake was measured by a modified enzyme-linked immunosorbent assay (ELISA) in a microtiter culture system. The MAb were of various immunoglobulin G subclasses and showed strong reactivities with their antigens. Four hybridoma clones recognizing **LPS** and three recognizing OmpA from P. mirabilis 19 were selected for the present study on the basis of reactions in ELISA and Western blot (immunoblot) analyses. In the uptake assay, it was possible to differentiate between antigen on the cell surface and antigen which had been internalized. Uptake of

LPS by macrophages was relatively rapid during the first 4 h of culture and then progressed more slowly over the remaining 24-h observation period. The level of detection of **LPS** in this assay system was in the nanogram range. When macrophages were pulsed with **LPS** for 30 min and subsequently washed to remove antigen not bound to the cells, the amount of **LPS** detectable on the macrophage surface decreased progressively for 3 h after the pulse, which indicated internalization of the antigen. Thereafter, **LPS** rose to an increased level on the cell surface. The rate of uptake of **LPS** was more rapid when it was in complex with OmpA. When the fate of OmpA was monitored in the same **LPS**-protein complexes by use of MAb to OmpA in a pulse experiment, the level of protein measured on the cell surface decreased after an initial rise, which again indicated internalization, but the protein did not reappear on the cell surface in a form detectable with the MAb. Compared with the **LPS** monitoring system, detection of OmpA associated with macrophages was weak, although the MAb to OmpA reacted strongly with the protein in the ELISA and Western blot analyses.

L11 ANSWER 20 OF 32 SCISEARCH COPYRIGHT 2003 THOMSON ISI
ACCESSION NUMBER: 95:135651 SCISEARCH
THE GENUINE ARTICLE: QG250
TITLE: MOLECULAR, GENETIC, AND TOPOLOGICAL CHARACTERIZATION OF O-ANTIGEN CHAIN-LENGTH REGULATION IN SHIGELLA-FLEXNERI
AUTHOR: MORONA R (Reprint); VANDENBOSCH L; MANNING P A
CORPORATE SOURCE: UNIV ADELAIDE, DEPT MICROBIOL & IMMUNOL, MICROBIAL PATHOGENESIS UNIT, ADELAIDE, SA 5005, AUSTRALIA (Reprint)
COUNTRY OF AUTHOR: AUSTRALIA
SOURCE: JOURNAL OF BACTERIOLOGY, (FEB 1995) Vol. 177, No. 4, pp. 1059-1068.
ISSN: 0021-9193.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 45
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The rfb region of Shigella flexneri encodes the proteins required to synthesize the O-antigen component of its cell surface **lipopolysaccharides** (**LPS**). We have previously reported that a region adjacent to rfb was involved in regulating the length distribution of the O-antigen polysaccharide chains (D. F. Macpherson et al., Mel. Microbiol. 5:1491-1499, 1991). The gene responsible has been identified in Escherichia **coli** O75 (called rol [R. A. Batchelor et al., J. Bacteriol. 173:5699-5704, 1991]) and in E. **coli** O111 and **Salmonella enterica** serovar **typhimurium** strain LT2 (called cld [D. A. Bastin et al., Mol. Microbiol. 5:2223-2231, 1991]). Through a combination of subcloning, deletion, and transposon insertion analysis, we have identified a gene adjacent to the S. flexneri rfb region which encodes a protein of 36 kDa responsible for the length distribution of O-antigen chains in **LPS** as seen on silver-stained sodium dodecyl sulfate-polyacrylamide gels. DNA sequence analysis identified an open reading frame (ORF) corresponding to the rol gene. The corresponding protein was almost identical in sequence to the Rol protein off. **coli** O75 and

was highly homologous to the functionally identical Cld proteins of E. **coli** O111 and S. **enterica** serovar **typhimurium** LT2. These proteins, together with ORF o349 adjacent to rfe, had almost identical hydropathy plots which predict membrane-spanning segments at the amino- and carboxy-terminal ends and a hydrophilic central region. We isolated a number of TnphoA insertions which inactivated the rol gene, and the fusion end points were determined. The PhoA(+) Rol::PhoA fusion proteins had PhoA fused within the large hydrophilic central domain of Rol. These proteins were located in the whole-membrane fraction, and extraction,vith Triton X-100 indicated a cytoplasmic membrane location. This finding was supported by sucrose density gradient fractionation of the whole-cell membranes and of E. **coli** maxicells expressing L-[S-35] methionine-labelled Rol protein. Hence, we interpret these data to indicate that the Rol protein is anchored into the cytoplasmic membrane via its amino- and carboxy-terminal ends but that the majority of the protein is located in the periplasmic space. To confirm that rol is responsible for the effects on O-antigen chain length observed with the cloned rfb genes in E. **coli** K-12, it was mutated in S. flexneri by insertion of a kanamycin resistance cartridge. The resulting strains produced **LPS** with O antigens of non-modal chain length, thereby confirming the function of the rol gene product. We propose a model for the function of Rol protein in which it acts as a type of molecular chaperone to facilitate the interaction of the O-antigen ligase (RfaL) with the O-antigen polymerase (Rfc) and polymerized, acyl **carrier** lipid-linked; O-antigen chains. Analysis of the DNA sequence of the region identified a number of ORFs corresponding to the well-known gnd and hisIE genes. The rol gene was located immediately downstream of two ORFs with sequence similarity to the gene encoding UDPglucose dehydrogenase (HasB) of Streptococcus pyogenes. The ORFs arise because of a deletion or frameshift mutation within the gene we have termed udg (for UDPglucose dehydrogenase).

L11 ANSWER 21 OF 32 MEDLINE
ACCESSION NUMBER: 93199295 MEDLINE
DOCUMENT NUMBER: 93199295 PubMed ID: 8383941
TITLE: Relationship between antibacterial activity and **porin** binding of lactoferrin in Escherichia **coli** and **Salmonella typhimurium**.
AUTHOR: Naidu S S; Svensson U; Kishore A R; Naidu A S
CORPORATE SOURCE: Department of Medical Microbiology, University of Lund, Malmo General Hospital, Sweden.
SOURCE: ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, (1993 Feb) 37 (2) 240-5.
Journal code: 0315061. ISSN: 0066-4804.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199304
ENTRY DATE: Entered STN: 19930423
Last Updated on STN: 19930423
Entered Medline: 19930415

AB The effect of lactoferrin (Lf) on bacterial growth was tested by measuring conductance changes in the cultivation media by using a

Malthus-AT system and was compared with the magnitude of 125I-labeled Lf binding in 15 clinical isolates of Escherichia **coli**. The binding property was inversely related to the change in bacterial metabolic rate (r = 0.91) and was directly related to the degree of bacteriostasis (r = 0.79). The magnitude of Lf-bacterium interaction showed no correlation with the MIC of Lf. In certain strains, Lf at supraoptimal levels reduced the bacteriostatic effect. Thus, the Lf concentration in the growth media was critical for the antibacterial effect. The cell envelopes of **Salmonella typhimurium** 395MS with smooth **lipopolysaccharide** (**LPS**) and its five isogenic rough mutants revealed 38-kDa **porin** proteins as peroxidase-labeled-Lf-reactive components in sodium dodecyl sulfate-polyacrylamide gel electrophoresis and Western blot (ligand blot) analysis. However, in the whole cell binding assay, parent strain 395MS demonstrated a very low interaction with 125I-Lf. On the other hand, Lf interaction gradually increased in correspondence with the decrease in **LPS** polysaccharide moiety in the isogenic rough mutants. Conductance measurement studies revealed that the low-level-Lf-binding (low-Lf-binding) strain 395MS with smooth **LPS** was relatively insusceptible to Lf, while the high-Lf-binding mutant Rd was more susceptible to Lf. These data suggested a correlation between Lf binding to **porins** and the Lf-mediated antimicrobial effect. The polysaccharide moiety of **LPS** shielded **porins** from the Lf interaction and concomitantly decreased the antibacterial effect.

L11 ANSWER 22 OF 32 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1991-163958 [22] WPIDS
DOC. NO. CPI: C1991-070943
TITLE: Vaccines protecting against gram-negative bacteria - contg. live avirulent **salmonella**, a **lipo-polysaccharide** synthesis enzyme and/or an iron-regulated **outer membrane protein** gene.
DERWENT CLASS: B04 C03 D16
INVENTOR(S): CURTISS, R; MUNSON, M
PATENT ASSIGNEE(S): (UNIW) UNIV WASHINGTON
COUNTRY COUNT: 17
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9106317	A	19910516	(199122)*		67
RW: AT BE CH DE DK ES FR GB GR IT LU NL SE					
W: AU CA JP					
AU 9067371	A	19910531	(199135)		
EP 500699	A1	19920902	(199236)	EN	67
R: AT BE CH DE DK ES FR GB GR IT LI NL SE					
JP 05504331	W	19930708	(199332)		67
EP 500699	A4	19930428	(199526)		
EP 500699	B1	19980610	(199827)	EN	
R: AT BE CH DE DK ES FR GB GR IT LI NL SE					
DE 69032408	E	19980716	(199834)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

EP 500699	A1	EP 1990-917076	19901102
		WO 1990-US6503	19901102
JP 05504331	W	JP 1990-515888	19901102
		WO 1990-US6503	19901102
EP 500699	A4	EP 1990-917076	
EP 500699	B1	EP 1990-917076	19901102
		WO 1990-US6503	19901102
DE 69032408	E	DE 1990-632408	19901102
		EP 1990-917076	19901102
		WO 1990-US6503	19901102

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 500699	A1	Based on	WO 9106317
JP 05504331	W	Based on	WO 9106317
EP 500699	B1	Based on	WO 9106317
DE 69032408	E	Based on	EP 500699
		Based on	WO 9106317

PRIORITY APPLN. INFO: US 1989-431597 19891103

AN 1991-163958 [22] WPIDS

AB WO 9106317 A UPAB: 19930928

Vaccine for protection against Gram-negative bacteria contains a live, avirulent **Salmonella** able to induce immunity to homologous and heterologous **Salmonella** serotypes and other Gram-negative enteric bacteria. The **Salmonella** has (1) at least one mutation in a gene which globally regulates other genes and (2) a mutation in a gene encoding an enzyme involved in **lipopolysaccharide** synthesis, which results in a reversibly rough phenotype. The cells, present in sufficient number to improve resistance to infection, are formulated in an acceptable **carrier**.

Alternatively, the second mutation is in a gene which regulates synthesis of iron-regulated **outer membrane proteins** (**OMP**) and results in constitutive expression of OME.

The isolated, avirulent strains of **Salmonella** carrying the specified mutations are themselves new.

USE/ADVANTAGE - These **Salmonella** strains have increased ability (a) to colonise the intestines and (b) to induce immunity, so reduce the chance of colonisation by, and persistence of heterologous **Salmonella**, and prevent invasion by other Enterobacteriaceae. They can be used to treat mammals (including humans) and poultry.

0/5

ABEQ EP 500699 A UPAB: 19930928

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ABEQ JP 05504331 W UPAB: 19931118

Vaccine for protection against Gram-negative bacteria contains a live, avirulent **Salmonella** able to induce immunity to homologous and heterologous **Salmonella** serotypes and other Gram-negative enteric bacteria.

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Pref. the second mutation is in a gene which regulates synthesis of iron-regulated **outer membrane proteins** (**OMP**) and results in constitutive expression of OME.

The isolated, avirulent strains of **Salmonella** carrying the specified mutations are new.

USE/ADVANTAGE - **Salmonella** strains have increased ability (a) to colonise the intestines and (b) to induce immunity, so reduce the chance of colonosation by and persistence of heterologous **Salmonella**, and prevent invasion by other Enterobacteriaceae. Used to treat mammals (including humans) and poultry.

L11 ANSWER 23 OF 32 MEDLINE

ACCESSION NUMBER:	90236939 MEDLINE
DOCUMENT NUMBER:	90236939 PubMed ID: 2139651
TITLE:	Surface topology of the Escherichia **coli** K-12 ferric enterobactin receptor.
AUTHOR:	Murphy C K; Kalve V I; Klebba P E
CORPORATE SOURCE:	Department of Microbiology, Medical College of Wisconsin, Milwaukee 53226.
CONTRACT NUMBER:	AI22608 (NIAID)
SOURCE:	JOURNAL OF BACTERIOLOGY, (1990 May) 172 (5) 2736-46. Journal code: 2985120R. ISSN: 0021-9193.
PUB. COUNTRY:	United States
DOCUMENT TYPE:	Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:	English
FILE SEGMENT:	Priority Journals
ENTRY MONTH:	199006
ENTRY DATE:	Entered STN: 19900706 Last Updated on STN: 19970203 Entered Medline: 19900605

AB Monoclonal antibodies (MAb) were raised to the Escherichia **coli** K-12 ferric enterobactin receptor, FepA, and used to identify regions of the polypeptide that are involved in interaction with its ligands ferric enterobactin and colicins B and D. A total

of 11 distinct FepA epitopes were identified. The locations of these epitopes within the primary sequence of FepA were mapped by screening MAb against a library of FepA::PhoA fusion proteins, a FepA deletion mutant, and proteolytically modified FepA. These experiments localized the 11 epitopes to seven different regions within the FepA polypeptide, including residues 2 to 24, 27 to 37, 100 to 178, 204 to 227, 258 to 290, 290 to 339, and 382 to 400 of the mature protein. Cell surface-exposed epitopes of FepA were identified and discriminated by cytofluorimetry and by the ability of MAb that recognize them to block the interaction of FepA with its ligands. Seven surface epitopes were defined, including one each in regions 27 to 37, 204 to 227, and 258 to 290 and two each in regions 290 to 339 and 382 to 400. One of these, within region 290 to 339, was recognized by MAb in bacteria containing intact (rfa+) **lipopolysaccharide** (**LPS**); all other surface epitopes were susceptible to MAb binding only in a strain containing a truncated (rfaD) **LPS** core, suggesting that they are physically shielded by E. **coli** K-12 **LPS** core sugars. Antibody binding to FepA surface epitopes within region 290 to 339 or 382 to 400 inhibited killing by colicin B or D and the uptake of ferric enterobactin. In addition to the FepA-specific MAb, antibodies that recognized other outer membrane components, including Cir, OmpA, TonA, and **LPS**, were identified. Immunochemical and biochemical characterization of the surface structures of FepA and analysis of its hydrophobicity and amphilicity were used to generate a model of the ferric enterobactin receptor's transmembrane strands, surface peptides, and ligand-binding domains.

L11 ANSWER 24 OF 32 MEDLINE
ACCESSION NUMBER: 88208334 MEDLINE
DOCUMENT NUMBER: 88208334 PubMed ID: 3364943
TITLE: Mutation of **Salmonella** paratyphi A conferring cross-resistance to several groups of antibiotics by decreased permeability and loss of invasiveness.
AUTHOR: Gutmann L; Billot-Klein D; Williamson R; Goldstein F W; Mounier J; Acar J F; Collatz E
CORPORATE SOURCE: Laboratoire de Microbiologie Medicale, Universite Pierre et Marie Curie, Paris, France.
SOURCE: ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, (1988 Feb) 32 (2) 195-201.
Journal code: 0315061. ISSN: 0066-4804.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198806
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19970203
Entered Medline: 19880601

AB A spontaneous one-step mutant of **Salmonella** paratyphi A selected on ampicillin showed cross-resistance to all beta-lactam antibiotics except imipenem and to aminoglycosides, chloramphenicol, tetracycline, trimethoprim, and quinolones. It also grew as small colonies. Examination of the cell envelope of the mutant showed a quantitative decrease in three major **outer membrane proteins** of 40.6, 39.6 (presumably

porins), and 24 kilodaltons and quantitative as well as qualitative modifications in the ladder pattern of **lipopolysaccharide**. Direct evidence for decreased permeability in the mutant included reduced uptake of [3H]glucose and norfloxacin, reduced accessibility of aztreonam and benzylpenicillin to penicillin-binding proteins in whole cells, and decreased diffusion of lactose and cephaloridine into proteoliposomes that were reconstituted with **outer membrane proteins** from the mutant. There was also loss of invasiveness of the mutant into HeLa cells. We assume that a pleiotropic mutation was responsible for multiple alterations in the outer membrane components of the resistant mutant of S. paratyphi A.

L11 ANSWER 25 OF 32 CABA COPYRIGHT 2003 CABI
ACCESSION NUMBER: 85:112941 CABA
DOCUMENT NUMBER: 852268524
TITLE: **Salmonella** infections in **cattle**. Cellular and humoral immune reactivity against O-antigens and **porins** after infection and vaccination with killed and live vaccines
AUTHOR: Robertsson, J. A.
CORPORATE SOURCE: Dep. Vet. Microbiol., Coll. Vet. Med., Univ. Agric. Sci., Uppsala, Sweden.
SOURCE: Salmonella infections in cattle. Cellular and humoral immune reactivity against O-antigens and porins after infection and vaccination with killed and live vaccines, (1985) pp. 69 + 6 reprints. Thesis, many ref.
Publisher: Veterinarmedicinska Fakulteten, Sveriges Lantbruksuniversitet, Uppsala.
ISBN: 91-576-2400-3
PUB. COUNTRY: Sweden
DOCUMENT TYPE: Dissertation
LANGUAGE: English
AB Acquired cellular and humoral immune reactions to **Salmonella typhimurium** and S. **dublin** infections in **cattle** were studied with the aid of skin tests, lymphocyte stimulation tests and ELISA. Delayed skin reactions were elicited by intracutaneous injections of S. **typhimurium** (O-antigens 4, 5, 12) and S. **dublin** (O-antigens 9, 12) supernatant fractions. In spontaneously infected herds a mean of 27% of tested animals reacted with double skin fold thickness increases of at least 4 mm estimated at 48 h. The skin test proved superior to the conventional faecal cultures with respect to sensitivity in detecting **cattle** exposed to **Salmonella**. In experimentally infected calves the delayed skin reactions were directed against the O-antigenic polysaccharide chain of the **LPS** and the **outer membrane protein** (**porins**). Peripheral blood lymphocytes collected from infected calves were stimulated with homologous **Salmonella** crude extract, O-**lipopolysaccharide**, O-polysaccharide and **porins**. The triggered cell types were found in both an unselected population of peripheral blood lymphocytes, and in a B-cell depleted and T-cell enriched population. Humoral IgM and IgG antibody responses to both experimental and spontaneous infections with either S. **typhimurium** and S. **dublin** were estimated by ELISA.

Infected calves responded after 10-15 days. High antibody titres did not correlate with large skin reactions. Calves were vaccinated with either inactivated S. **typhimurium** (O-antigens 4, 5, 12) whole cells, artificial S. **typhimurium** octasaccharide (O-antigens 4, 12) -**porin** conjugate subcutaneously or, a live auxotrophic S. **typhimurium** (O-antigens 1, 4, 12) vaccine orally. The live auxotrophic strain did not persist in calves for more than 2 weeks. This live vaccine gave better protection than both the heat-inactivated whole cell vaccine and the artificial octasaccharide-**porin** conjugate. The good protection elicited by the live vaccine was correlated with a cellular immunity directed both against O-antigens and **porins**. The inactivated whole-cell vaccine and the artificial octasaccharide-**porin** conjugate gave mainly a humoral immune response and only a moderate protection against systemic **Salmonella** infection.

L11 ANSWER 26 OF 32 MEDLINE
ACCESSION NUMBER: 85028086 MEDLINE
DOCUMENT NUMBER: 85028086 PubMed ID: 6092181
TITLE: Evaluation of lymphocyte blastogenesis for diagnosis of **bovine** brucellosis.
AUTHOR: Baldwin C L; Antczak D F; Winter A J
SOURCE: DEVELOPMENTS IN BIOLOGICAL STANDARDIZATION, (1984) 56 357-69.
Journal code: 0427140. ISSN: 0301-5149.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198412
ENTRY DATE: Entered STN: 19900320
Last Updated on STN: 19900320
Entered Medline: 19841214

AB The lymphocyte blastogenesis test (LBT) was evaluated for its usefulness in the diagnosis of **bovine** brucellosis. Using a cell titration assay which measures the blastogenic response over a range of cell concentrations, peripheral blood lymphocytes (PBL) from various populations of **cattle** were tested with purified Brucella abortus **porin** proteins and with Brucella abortus soluble antigen (BASA). **Cattle** tested included groups infected with virulent B. abortus strain 2308, vaccinated with B. abortus strain 19, infected with Escherichia **coli** strain 0116:H31 (known to cause serological cross reactions with B., abortus), vaccinated with a bacterin of Staphylococcus aureus, and unimmunized controls. Pregnant heifers vaccinated with strain 19 could generally be distinguished from pregnant animals infected with virulent strain 2308 when LBT responses to **porin** were analyzed by comparing maximum delta counts per minute (the responses of the cell concentration at which there is the greatest difference between stimulation in the presence of antigen and without antigen). However, a group of nonpregnant heifers infected with strain 2308 either failed to react or reacted in an inconsistent fashion with **porin** or BASA. The lack of responsiveness in the LBT was accompanied by high concentrations of circulating agglutinins. False positive responses also occurred to **porin**, although much less frequently than to the crude preparation BASA. The use of nylon wool fractionated PBL did not provide an improved means for

distinguishing Brucella infected from uninfected **cattle**. Based on these findings, we would not recommend the LBT with either of these antigens as a routine method for diagnosis. **Lipopolysaccharide** was extracted from B. abortus strain 2308 and tested for its role in inducing false positive responses. Although there exist components in B. abortus extracts which are mitogenic for **bovine** PBL, our data do not support such a function for purified Brucella **LPS**.

L11 ANSWER 27 OF 32 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 83264409 MEDLINE
DOCUMENT NUMBER: 83264409 PubMed ID: 6347896
TITLE: **Salmonella typhimurium** infection in calves: cell-mediated and humoral immune reactions before and after challenge with live virulent bacteria in calves given live or inactivated vaccines.
AUTHOR: Lindberg A A; Robertsson J A
SOURCE: INFECTION AND IMMUNITY, (1983 Aug) 41 (2) 751-7. Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198309
ENTRY DATE: Entered STN: 19900319
Last Updated on STN: 19900319
Entered Medline: 19830909

AB Groups of six calves, 4 to 5 weeks old, were vaccinated either orally with a live auxotrophic **Salmonella typhimurium** (O-antigen 1,4,12) SL1479 vaccine (10(8) bacteria on day zero, 10(10) bacteria on days 7 and 14) or subcutaneously with a heat-inactivated (56 degrees C, 30 min) S. **typhimurium** SVA1232 vaccine (10(10) bacteria suspended in 30% [vol/vol] aluminum hydroxide on days zero, 7, and 14). The calves were then orally challenged with either 10(6) (approximately 100 X the 25% lethal dose) or 10(9) (approximately 100,000 X the 25% lethal dose) live bacteria of the calf-virulent S. **typhimurium** SVA44 strain. The immune reactivity of these calves and of nonvaccinated control calves was followed before and after the challenge infection up to 42 days by (i) intradermal injection of S. **typhimurium** crude extract, **outer membrane protein** preparation (**porins**), and **lipopolysaccharide** (**LPS**), (ii) in vitro stimulation of peripheral blood lymphocytes estimated by using uptake of [3H]thymidine, with S. **typhimurium** crude extract, **porins**, **LPS**, and polysaccharide (O-antigenic polysaccharide chain free of lipid A), and **Salmonella** sp. serotype thompson (O-antigen 6,7) strain IS40 **LPS** and polysaccharide, and (iii) estimation of the class-specific immunoglobulin G (IgG) and IgM antibody responses against S. **typhimurium LPS** and **porins**, and **Salmonella** sp. serotype thompson **LPS**. The immune studies showed that in calves given the live vaccine orally, the skin test reactivity and lymphocyte stimulation indices were significantly higher (P values ranging from less than 0.025 to less than 0.0005) against homologous, but not heterologous, antigens than those seen in calves given the heat-inactivated vaccine

subcutaneously. In contrast, the IgG and IgM antibody titers against homologous **LPS** and **porins** were significantly higher (P less than 0.0005) in sera collected on day 21 from calves given the heat-inactivated vaccine than in calves given the live vaccine. After the oral challenge, calves given the live vaccine showed reduced cell-mediated immune reactions, in agreement with the observation that the host defense could eradicate the challenge organism, whereas calves given the heat-inactivated vaccine showed significantly increased cell-mediated immune reactions (P values ranging from less than 0.025 to less than 0.005), in agreement with the observation that in these calves, the challenge strain caused enteritis as well as systemic invasion. The increased cell-mediated immune reactivity in calves given the live vaccine correlated well with the excellent protection against challenge infection seen in these animals.

L11 ANSWER 28 OF 32 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 83005825 MEDLINE
DOCUMENT NUMBER: 83005825 PubMed ID: 6180988
TITLE: **Salmonella typhimurium** infection in calves: specific immune reactivity against O-antigenic polysaccharide detectable in in vitro assays.
AUTHOR: Robertsson J A; Fossum C; Svenson S B; Lindberg A A
SOURCE: INFECTION AND IMMUNITY, (1982 Aug) 37 (2) 728-36. Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198212
ENTRY DATE: Entered STN: 19900317
Last Updated on STN: 19900317
Entered Medline: 19821202

AB Peripheral blood lymphocytes collected from calves infected experimentally with **Salmonella typhimurium** (O antigens 4,5,12) or **Salmonella** sp. serotype **dublin** (O 9,12) were stimulated with various bacterial cell envelope components, and their [3H]thymidine incorporation was measured. It was found that peripheral blood lymphocytes from infected calves incorporated significantly more [3H]thymidine than peripheral blood lymphocytes from uninfected controls (P values ranged from less than 0.05 to less than 0.0005). The responder cell type was found in a B-cell-depleted and T-cell-enriched population. The **Salmonella** infections elicited T-cell responses against at least two cell envelope components: (i) a specific response against the O-antigenic polysaccharide chain of the **lipopolysaccharide** (This was evident in that a polysaccharide from S. enteritidis [O 9,12] which shares a trisaccharide structure [O antigen 12 determinant] with S. **typhimurium** stimulated [3H]thymidine uptake, which, although lower than in the homologous system, was significantly higher than that seen after incubation with unrelated **Salmonella** sp serotype thompson polysaccharide.) and (ii) a response against **outer membrane proteins** (**porins**), which are present in both S. **typhimurium** and **Salmonella** sp. serotype **dublin**. The experiments with peripheral blood lymphocytes from **Salmonella** sp.

serotype **dublin**-infected calves gave results in excellent agreement with those obtained in S. **typhimurium**-infected calves.

L11 ANSWER 29 OF 32 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 82198995 MEDLINE
DOCUMENT NUMBER: 82198995 PubMed ID: 7043687
TITLE: Delayed hypersensitivity skin test for detection of immune responses against **Salmonella** in **cattle**.
AUTHOR: Robertsson J A; Svenson S B; Renstrom L H
SOURCE: RESEARCH IN VETERINARY SCIENCE, (1982 Mar) 32 (2) 225-30.
Journal code: 0401300. ISSN: 0034-5288.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198207
ENTRY DATE: Entered STN: 19900317
Last Updated on STN: 19900317
Entered Medline: 19820719

AB Intracutaneous injection of a crude supernatant fraction from homogenised **Salmonella typhimurium** (O antigens 4, 5, 12) or S **dublin** (O antigens 9, 12) in 250 **cattle** or calves from **salmonella** infected herds elicited in 27 per cent and 42 per cent, respectively, a local dermal reaction. Both the time course and histological examinations of biopsy materials indicated a delayed type of hypersensitivity reaction. No local dermal reactions were seen in any of 250 heads of **cattle** or calves from control herds. The immunological characterisation of the S **typhimurium** and S **dublin** crude extracts revealed that they contained O antigens (ie, **lipopolysaccharides**) and **outer membrane proteins, porins**. A Yersinia enterocolitica serotype O3 extract did not evoke skin reactions in any of 70 tested animals. Fifteen calves infected with S **typhimurium** and five with S **dublin** exhibited increased ELISA titres against the O antigenically homologous **lipopolysaccharides**

L11 ANSWER 30 OF 32 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 83066631 MEDLINE
DOCUMENT NUMBER: 83066631 PubMed ID: 6183722
TITLE: Defined **salmonella** antigens for detection of cellular and humoral immune responses in **salmonella** infected calves.
AUTHOR: Robertsson J A; Svenson S B; Renstrom L H; Lindberg A A
SOURCE: RESEARCH IN VETERINARY SCIENCE, (1982 Sep) 33 (2) 221-7.
Journal code: 0401300. ISSN: 0034-5288.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198301
ENTRY DATE: Entered STN: 19900317

Last Updated on STN: 19900317
Entered Medline: 19830107

AB Intracutaneous injection of a crude supernatant fraction from homogenised **Salmonella typhimurium** SVA 44 (O 4, 5, 12) or S **dublin** SVA 47 (O 9, 12) elicited highly significant (P less than 0.005) double skin-fold thickness increases in calves spontaneously infected with **salmonella** and verified as excretors. The use of isolated structurally defined outer membrane components from **salmonella** bacteria established that the delayed skin reactions could be elicited by either the **lipopolysaccharide** which contains O-antigenic polysaccharide chains homologous to the infecting strain, or an **outer membrane protein** fraction (**porin**). The **porin** preparation gave rise to skin reactions regardless of which **salmonella** serotype the calf was infected with. Histological examination of biopsy material indicated a delayed skin reaction. No such reactions were seen in biopsies from control calves. The use of **lipopolysaccharide** permitted a **salmonella** serogroup specific skin test although the endotoxic side effects were marked in doses above 50 micrograms. Purified O-antigen specific polysaccharides devoid of lipid A from S **typhimurium** (O 4, 12) or S enteritidis (O 9, 12) failed however to elicit skin reactions. Infected calves had humoral antibody titres against the O antigen of the infecting strain which were significantly (P less than 0.005) higher than those found in control calves.

L11 ANSWER 31 OF 32 MEDLINE
ACCESSION NUMBER: 80049530 MEDLINE
DOCUMENT NUMBER: 80049530 PubMed ID: 387731
TITLE: Defective transport and other phenotypes of a periplasmic "leaky" mutant of Escherichia **coli** K-12.
AUTHOR: Anderson J J; Wilson J M; Oxender D L
SOURCE: JOURNAL OF BACTERIOLOGY, (1979 Nov) 140 (2) 351-8. Journal code: 2985120R. ISSN: 0021-9193.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198001
ENTRY DATE: Entered STN: 19900315
Last Updated on STN: 19900315
Entered Medline: 19800128

AB A mutant of Escherichia **coli** K-12 deficient in high-affinity leucine transport and related binding proteins was obtained by selecting for azaleucine resistance after bacteriophage Mu mutagenesis. We determined that the cause was a generalized loss of periplasmic binding proteins and a sharp decrease in the activity of transport systems requiring them. Other transport systems resistant to osmotic shock and present in membrane vesicles, were affected to a lesser degree or not at all. The mutation, designated lky::Mucts, was shown to be a pleiotropic envelope mutation, rendering the mutant sensitive to ionic and nonionic detergents, antibiotics, and ethylenediaminetetraacetic acid: the strain had also acquired tolerance to colicins E1, E2, and E3, while remaining normally sensitive to a variety of bacteriophages. An analysis of the **lipopolysaccharide** of parent and mutant strains

revealed a twofold reduction in the neutral sugar content of the core oligosaccharide of the lky strain, but no change in sensitivities to phages which utilize **lipopolysaccharide** or **outer membrane proteins** for absorption. The lky::Mucts locus was mapped by transduction and found to be located near, or in, the tolPAB gene cluster linked to gal. Secondary mutations suppressing the detergent sensitivity of lky arose at a frequency of 10(-7), yielding a variety of new phenotypes. The lky::Mucts mutation did not give rise to obvious alterations in the gross morphology of the cell or in cell division.

L11 ANSWER 32 OF 32 MEDLINE
ACCESSION NUMBER: 77134121 MEDLINE
DOCUMENT NUMBER: 77134121 PubMed ID: 320978
TITLE: Stimulation by **lipopolysaccharide** of the binding of **outer membrane proteins** O-8 and O-9 to the peptidoglycan layer of Escherichia **coli** K--12.
AUTHOR: Yu F; Mizushima S
SOURCE: BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1977 Feb 21) 74 (4) 1397-402.
Journal code: 0372516. ISSN: 0006-291X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197704
ENTRY DATE: Entered STN: 19900313
Last Updated on STN: 19970203
Entered Medline: 19770428

(FILE 'MEDLINE' ENTERED AT 12:44:10 ON 24 JUN 2003)

L12	981	SEA	FILE=MEDLINE	ABB=ON PLU=ON	SIDEROPHORES/CT
L13	9624	SEA	FILE=MEDLINE	ABB=ON PLU=ON	"BACTERIAL OUTER MEMBRANE PROTEINS"/CT
L14	31274	SEA	FILE=MEDLINE	ABB=ON PLU=ON	LIPOPOLYSACCHARIDES/CT
L15	661	SEA	FILE=MEDLINE	ABB=ON PLU=ON	(L12 OR L13) AND L14
L16	1823	SEA	FILE=MEDLINE	ABB=ON PLU=ON	PORINS/CT
L17	65	SEA	FILE=MEDLINE	ABB=ON PLU=ON	L15 AND L16
L18	11700	SEA	FILE=MEDLINE	ABB=ON PLU=ON	SALMONELLA/CT
L19	153160	SEA	FILE=MEDLINE	ABB=ON PLU=ON	"ESCHERICHIA COLI"/CT
L20	28	SEA	FILE=MEDLINE	ABB=ON PLU=ON	L17 AND (L18 OR L19)
L23	16609	SEA	FILE=MEDLINE	ABB=ON PLU=ON	BIRDS/CT
L24	211024	SEA	FILE=MEDLINE	ABB=ON PLU=ON	CATTLE/CT
L25	114057	SEA	FILE=MEDLINE	ABB=ON PLU=ON	SWINE/CT
L26	79166	SEA	FILE=MEDLINE	ABB=ON PLU=ON	SHEEP/CT
L27	17499	SEA	FILE=MEDLINE	ABB=ON PLU=ON	GOATS/CT
L28	2	SEA	FILE=MEDLINE	ABB=ON PLU=ON	L20 AND (L23 OR L24 OR L25 OR L26 OR L27)

L12	981	SEA	FILE=MEDLINE	ABB=ON PLU=ON	SIDEROPHORES/CT
L13	9624	SEA	FILE=MEDLINE	ABB=ON PLU=ON	"BACTERIAL OUTER MEMBRANE PROTEINS"/CT
L14	31274	SEA	FILE=MEDLINE	ABB=ON PLU=ON	LIPOPOLYSACCHARIDES/CT
L15	661	SEA	FILE=MEDLINE	ABB=ON PLU=ON	(L12 OR L13) AND L14
L18	11700	SEA	FILE=MEDLINE	ABB=ON PLU=ON	SALMONELLA/CT

L19	153160	SEA	FILE=MEDLINE ABB=ON	PLU=ON	"ESCHERICHIA COLI"/CT
L23	16609	SEA	FILE=MEDLINE ABB=ON	PLU=ON	BIRDS/CT
L24	211024	SEA	FILE=MEDLINE ABB=ON	PLU=ON	CATTLE/CT
L25	114057	SEA	FILE=MEDLINE ABB=ON	PLU=ON	SWINE/CT
L26	79166	SEA	FILE=MEDLINE ABB=ON	PLU=ON	SHEEP/CT
L27	17499	SEA	FILE=MEDLINE ABB=ON	PLU=ON	GOATS/CT
L29	131	SEA	FILE=MEDLINE ABB=ON	PLU=ON	L15 AND (L18 OR L19)
L30	8	SEA	FILE=MEDLINE ABB=ON	PLU=ON	L29 AND (L23 OR L24 OR L25 OR L26 OR L27)

L31 8 L28 OR L30

L31 ANSWER 1 OF 8 MEDLINE
AN 2001177351 MEDLINE
TI An investigation into the pathogenic properties of Escherichia coli strains BLR, BL21, DH5alpha and EQ1.
AU Chart H; Smith H R; La Ragione R M; Woodward M J
SO JOURNAL OF APPLIED MICROBIOLOGY, (2000 Dec) 89 (6) 1048-58. Journal code: 9706280. ISSN: 1364-5072.
AB AIMS: To examine Escherichia coli strains EQ1, DH5alpha, BLR and BL21 for known pathogenic mechanisms. METHODS AND RESULTS: Using specific DNA probes, the strains were shown not to carry the genes encoding invasion, various adhesion phenotypes or expression of a range of enterotoxins. The strains were unable to express long-chain lipopolysaccharide and were susceptible to the effects of serum complement. Using a BALB/c mouse model, the strains were shown to be unable to survive in selected tissues or to persist in the mouse gut. Using a chick model, strains EQ1, BLR and BL21 invaded livers but not spleens; only strain EQ1 persisted in the chick gut. In Merino sheep, only strain EQ1 was detected 6 d post-infection. CONCLUSIONS: Escherichia coli strains EQ1, DH5alpha, BLR and BL21 did not carry the well-recognized pathogenic mechanisms required by strains of E. coli causing the majority of enteric infections. SIGNIFICANCE AND IMPACT OF THE STUDY: Escherichia coli strains EQ1, DH5alpha, BLR and BL21 were considered to be non-pathogenic and unlikely to survive in host tissues and cause disease.

L31 ANSWER 2 OF 8 MEDLINE
AN 96039089 MEDLINE
TI Serologic studies of experimentally induced Salmonella choleraesuis var kunzendorf infection in pigs.
AU Srinand S; Robinson R A; Collins J E; Nagaraja K V
SO AMERICAN JOURNAL OF VETERINARY RESEARCH, (1995 Sep) 56 (9) 1163-8. Journal code: 0375011. ISSN: 0002-9645.
AB Two indirect ELISA containing outer membrane protein (OMP) and lipopolysaccharide (LPS) antigens from a field isolate of Salmonella choleraesuis var kunzendorf were developed and evaluated in experimentally infected and uninfected control pigs. Experimentally induced infection with S choleraesuis was successfully established in 10 pigs by oral inoculation with 10(8) organisms, and 3 pigs died of clinical salmonellosis at postinoculation (PI) weeks 1, 2, and 4. Swab specimens from tonsils, nostrils, and rectum of pigs were obtained for culture, and sera were evaluated at weekly intervals for 9 weeks after inoculation. The ELISA containing OMP and LPS antigens with either anti-swine IgG or protein albumin-to-globulin

ratio (antiglobulin) conjugates were standardized for serologic evaluation. All 4 ELISA (2 OMP and 2 LPS) detected seroconversion by PI week 3 and had sensitivities and specificities of 97.8 and 88.8, 100 and 100, 95.6 and 88.8, and 93.3 and 72.5%, at their ideal cutoff points (negative mean optical density +2 SD). There was excellent agreement between all 4 ELISA systems as determined by kappa values. Cultures of fecal, tonsil, and nasal swab specimens were positive for S choleraesuis until the fourth week of infection. Fecal swab specimens from 1 pig were positive for S choleraesuis until PI week 7. Persistent infection after antemortem culture results were negative was detected by all 4 ELISA, which indicated consistently high titers until the end of PI week 9.(ABSTRACT TRUNCATED AT 250 WORDS)

L31 ANSWER 3 OF 8 MEDLINE
AN 93239279 MEDLINE
TI TnphoA Salmonella abortusovis mutants unable to adhere to epithelial cells and with reduced virulence in mice.
AU Rubino S; Leori G; Rizzu P; Erre G; Colombo M M; Uzzau S; Masala G; Cappuccinelli P
SO INFECTION AND IMMUNITY, (1993 May) 61 (5) 1786-92.
Journal code: 0246127. ISSN: 0019-9567.
AB Salmonella abortusovis is a pathogenic bacterium highly specific to sheep, causing spontaneous abortion. In order to understand the role of genes involved in pathogenicity, we investigated S. abortusovis with the random mutagenic TnphoA transposon. A total of 95 S. abortusovis TnphoA mutants yielding alkaline phosphatase active fusion protein were obtained. In this way we created a bank of strains in order to identify any phenotypic modification which could affect the periplasmic and/or exported proteins involved in virulence. The TnphoA mutants were screened for the ability to adhere to epithelial cells: a total of 23 mutant strains lost this phenotypic feature. To detect the chromosomal TnphoA insertions, DNA was restricted by the enzyme EcoRV, which does not cleave the TnphoA sequence. Southern blotting analysis revealed the existence of four classes of integration. Colonies of adhesiveless mutants appear to be as smooth as the S. abortusovis wild type, and electrophoretic analysis indicates a normal lipopolysaccharide profile. To identify mutations affecting genes encoding for outer membrane proteins (OMPs), the alkaline phosphatase portion of the fusion proteins was revealed in TnphoA mutants by immunoblotting with specific antibodies. A mutation in OMPs was detected in seven mutants. Restriction analysis identified in four mutants a common region of 2 kb where alterations in genes coding for OMPs occur. We suggested that this region is involved in pathogenicity in mice, since a group of mutant strains has shown reduced virulence in mice and one mutant is completely avirulent. Furthermore, after mice were exposed orally to these mutants, significant protection against oral challenge with the parental virulent strain resulted.

L31 ANSWER 4 OF 8 MEDLINE
AN 93199295 MEDLINE
TI Relationship between antibacterial activity and porin binding of lactoferrin in Escherichia coli and Salmonella typhimurium.
AU Naidu S S; Svensson U; Kishore A R; Naidu A S
SO ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, (1993 Feb) 37 (2) 240-5.
Journal code: 0315061. ISSN: 0066-4804.
AB The effect of lactoferrin (Lf) on bacterial growth was tested by

measuring conductance changes in the cultivation media by using a Malthus-AT system and was compared with the magnitude of 125I-labeled Lf binding in 15 clinical isolates of Escherichia coli. The binding property was inversely related to the change in bacterial metabolic rate (r = 0.91) and was directly related to the degree of bacteriostasis (r = 0.79). The magnitude of Lf-bacterium interaction showed no correlation with the MIC of Lf. In certain strains, Lf at supraoptimal levels reduced the bacteriostatic effect. Thus, the Lf concentration in the growth media was critical for the antibacterial effect. The cell envelopes of Salmonella typhimurium 395MS with smooth lipopolysaccharide (LPS) and its five isogenic rough mutants revealed 38-kDa porin proteins as peroxidase-labeled-Lf-reactive components in sodium dodecyl sulfate-polyacrylamide gel electrophoresis and Western blot (ligand blot) analysis. However, in the whole cell binding assay, parent strain 395MS demonstrated a very low interaction with 125I-Lf. On the other hand, Lf interaction gradually increased in correspondence with the decrease in LPS polysaccharide moiety in the isogenic rough mutants. Conductance measurement studies revealed that the low-level-Lf-binding (low-Lf-binding) strain 395MS with smooth LPS was relatively insusceptible to Lf, while the high-Lf-binding mutant Rd was more susceptible to Lf. These data suggested a correlation between Lf binding to porins and the Lf-mediated antimicrobial effect. The polysaccharide moiety of LPS shielded porins from the Lf interaction and concomitantly decreased the antibacterial effect.

L31 ANSWER 5 OF 8 MEDLINE
AN 91089811 MEDLINE
TI Binding of enteric bacteria to hog gastric mucin.
AU Ketyi I
SO ACTA MICROBIOLOGICA HUNGARICA, (1990) 37 (1) 45-53.
Journal code: 8400270. ISSN: 0231-4622.

AB The binding features of enteric bacteria were studied using a model mucin of hog gastric origin. The time requirement of binding is short, it is temperature-independent, but dose-dependent. The binding effectiveness of Escherichia coli, Shigella sonnei and Shigella flexneri, as well as Salmonella minnesota had a narrow range: 1.5-9 germs pro pg of mucin. The bacterial ligand of the binding is certainly not a polysaccharide as proved by the uniform binding of the R-mutant series of S. sonnei and S. minnesota. On the basis of inhibition tests by an outer membrane protein fraction, the ligand may be a common outer membrane protein of the enteric bacteria. The outer membrane proteins encoded by the Shigella-EIEC invasivity plasmids do not take part in this binding. The inhibition by killed bacteria or by their culture supernatants of mucin binding of heterologous species may suggest a non-species specific common ligand, too. Similarly to the mucin utilization, the binding ability also seems to be a general phenomenon among the enteric bacteria.

L31 ANSWER 6 OF 8 MEDLINE
AN 89045590 MEDLINE
TI Characters of Escherichia coli 078 isolated from septicaemic animals.
AU Dassouli-Mrani-Belkebir A; Contrepois M; Girardeau J P; der Vartanian M
SO VETERINARY MICROBIOLOGY, (1988 Aug) 17 (4) 345-56.
Journal code: 7705469. ISSN: 0378-1135.

AB Twenty-one Escherichia coli isolates of serogroup 078 from animal septicaemia were obtained from laboratories in France, England and Canada. The bacteria were compared for outer membrane protein (OMP) patterns, lipopolysaccharide patterns, surface proteins of fimbrial types, biotypes, antibiotypes, colicin production, hydroxamate production and virulence in mice. Sixteen isolates from bovine, ovine, porcine and avian species in France and England had a similar OMP pattern. This characteristic associated with minor properties like surface proteins type, colicin V production and virulence in mice made these 16,078 E. coli isolates from 4 animal species, good candidates for the same clonal grouping. The five other bovine isolates with "Vir" or "31a" phenotypes were heterogeneous for most of the characteristics studied.

L31 ANSWER 7 OF 8 MEDLINE
AN 86084447 MEDLINE
TI Clonal analysis of Escherichia coli O2:K1 isolated from diseased humans and animals.
AU Achtman M; Heuzenroeder M; Kusecek B; Ochman H; Caugant D; Selander R K; Vaisanen-Rhen V; Korhonen T K; Stuart S; Orskov F; +
SO INFECTION AND IMMUNITY, (1986 Jan) 51 (1) 268-76.
Journal code: 0246127. ISSN: 0019-9567.
AB Forty-six Escherichia coli isolates of serotype O2:K1 from human urinary tract infections, chicken sepsis, and bovine mastitis were obtained from laboratories in England, Denmark, Sweden, and Finland. The bacteria were compared for outer membrane protein (OMP) pattern, lipopolysaccharide pattern, electrophoretic mobilities of enzymes, and flagellar serotype and were tested for fimbriation, biotype, hydroxamate production, hemolysin production, antibiotic resistance, plasmid content, colicin production, and virulence in neonatal rats. Isolates from humans were assigned to two clonal groups; poultry isolates belonged to one of these clonal groups, whereas bovine isolates belonged to the other. Poultry and human isolates of the same clonal group could be distinguished only by their plasmid content. Strains within this group were heterogeneous with respect to biotype, fimbriation, virulence, and flagellar serotype. Human and bovine isolates of the second clonal group were distinguished by a minor change in OMP pattern and by their plasmid content. It is concluded that meaningful clonal groupings are best recognized by the combination of OMP and electrophoretic enzyme patterns. The O:K serotype can aid in the recognition of important subclones, whereas the other microbiological properties tested can vary widely within clonal groupings. Furthermore, we conclude that certain O:K serotypes can contain very different clonal groupings having little genetic relatedness.

L31 ANSWER 8 OF 8 MEDLINE
AN 85028086 MEDLINE
TI Evaluation of lymphocyte blastogenesis for diagnosis of bovine brucellosis.
AU Baldwin C L; Antczak D F; Winter A J
SO DEVELOPMENTS IN BIOLOGICAL STANDARDIZATION, (1984) 56 357-69.
Journal code: 0427140. ISSN: 0301-5149.
AB The lymphocyte blastogenesis test (LBT) was evaluated for its usefulness in the diagnosis of bovine brucellosis. Using a cell titration assay which measures the blastogenic response over a range of cell concentrations, peripheral blood lymphocytes (PBL) from various populations of cattle were tested with purified Brucella

abortus porin proteins and with Brucella abortus soluble antigen (BASA). Cattle tested included groups infected with virulent B. abortus strain 2308, vaccinated with B. abortus strain 19, infected with Escherichia coli strain 0116:H31 (known to cause serological cross reactions with B., abortus), vaccinated with a bacterin of Staphylococcus aureus, and unimmunized controls. Pregnant heifers vaccinated with strain 19 could generally be distinguished from pregnant animals infected with virulent strain 2308 when LBT responses to porin were analyzed by comparing maximum delta counts per minute (the responses of the cell concentration at which there is the greatest difference between stimulation in the presence of antigen and without antigen). However, a group of nonpregnant heifers infected with strain 2308 either failed to react or reacted in an inconsistent fashion with porin or BASA. The lack of responsiveness in the LBT was accompanied by high concentrations of circulating agglutinins. False positive responses also occurred to porin, although much less frequently than to the crude preparation BASA. The use of nylon wool fractionated PBL did not provide an improved means for distinguishing Brucella infected from uninfected cattle. Based on these findings, we would not recommend the LBT with either of these antigens as a routine method for diagnosis. Lipopolysaccharide was extracted from B. abortus strain 2308 and tested for its role in inducing false positive responses. Although there exist components in B. abortus extracts which are mitogenic for bovine PBL, our data do not support such a function for purified Brucella LPS.

(FILE 'HCAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO, CABA, AGRICOLA, VETU, VETB' ENTERED AT 12:48:51 ON 24 JUN 2003)

- Author (s)

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L32        1665 S "EMERY D"?/AU
L33         372 S "STRAUB D"?/AU
L34           2 S "ZAMMERT D"?/AU
L35           2 S "KALLEVIG G"?/AU
L36           2 S L32 AND L33 AND L34 AND L35
L37          20 S L32 AND (L33 OR L34 OR L35)
L38           2 S L33 AND (L34 OR L35)
L39           2 S L34 AND L35
L40           3 S (L32 OR L33 OR L34 OR L35) AND L3
L41          20 S L36 OR L37 OR L38 OR L39 OR L40
L42          12 DUP REM L41 (8 DUPLICATES REMOVED)
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L42 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 1

ACCESSION NUMBER: 2002:521529 HCAPLUS
DOCUMENT NUMBER: 137:77879
TITLE: Immunizing compositions and methods of use
INVENTOR(S): **Zammert, Donavan E.; Kallevig, Gayla K.; Emery, Daryll A.; Straub, Darren E.**
PATENT ASSIGNEE(S): Willmar Poultry Company, Inc., USA
SOURCE: PCT Int. Appl., 83 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2002053180	A2	20020711	WO 2002-US188	20020103
WO 2002053180	A3	20030313		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2003036639	A1	20030220	US 2002-38504	20020103

PRIORITY APPLN. INFO.: US 2001-259504P P 20010103
US 2001-262896P P 20010119

AB The present invention provides compns. including **siderophore receptor** polypeptides and porins from Gram-neg. microbes such as **Salmonella**, , and preferably **lipopolysaccharide** at a concn. of no greater than about 10.0 endotoxin units per mL. The present invention also provides methods of making and using such compns. and vaccines for vaccination of dairy cattle with no side effects for treatment of metritis or mastitis or to reduce fecal shedding of enteric bacteria.

L42 ANSWER 2 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:501815 BIOSIS
DOCUMENT NUMBER: PREV200200501815
TITLE: Active immunization using a siderophore receptor protein.
AUTHOR(S): **Emery, Daryll A. (1); Straub, Darren E.**; Huisinga, Richard; Carlson, Beth A.
CORPORATE SOURCE: (1) Willmar, MN USA
ASSIGNEE: Willmar Poultry Company, Inc., Willmar, MN, USA
PATENT INFORMATION: US 6432412 August 13, 2002
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Aug. 13, 2002) Vol. 1261, No. 2, pp. No Pagination.
http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English

AB The invention provides a vaccine for immunizing poultry and other animals against infection by a gram-negative bacteria, and a method of immunizing an animal using the vaccine. The vaccine may contain purified siderophore receptor proteins derived from a single strain or species of gram-negative bacteria or other organism, which are cross-reactive with siderophores produced by two or more strains, species or genera of gram-negative bacteria. The invention further provides a process for isolating and purifying the siderophore receptor proteins, and for preparing a vaccine containing the proteins. Also provided is a method for diagnosing gram-negative sepsis.

L42 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 2
ACCESSION NUMBER: 2001:396646 HCAPLUS

DOCUMENT NUMBER: 134:365704
TITLE: In ovo delivery of an immunogen containing implant
INVENTOR(S): **Emery, Daryll A.; Straub, Darren E.**
PATENT ASSIGNEE(S): Willmar Poultry Company, Inc., USA
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001037810	A2	20010531	WO 2000-US32080	20001121
WO 2001037810	A3	20011122		
W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2002034530	A1	20020321	US 1999-449271	19991124
EP 1233759	A2	20020828	EP 2000-980673	20001121
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

PRIORITY APPLN. INFO.: US 1999-449271 A 19991124
WO 2000-US32080 W 20001121

AB The disclosure provides a method for administering an agent to an avian species by in ovo delivery of an implant releasably contg. the agent. In one embodiment, the method is particularly advantageous for stimulating an immune response in a bird by in ovo administration of a biocompatible implant releasably contg. an immunogen. The implant can provide for sustained or delayed release of the immunogen or both. The amt. of immunogen that is released from the implant into the bird is preferably sufficient to effectively stimulate a primary immune response to the immunogen. Other agents which can be administered according to the method of the invention are disclosed.

L42 ANSWER 4 OF 12 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2003)
ACCESSION NUMBER: 2001:83742 AGRICOLA
DOCUMENT NUMBER: IND23239840
TITLE: Evaluation of a novel vaccine consisting of siderophore receptor proteins and porins for controlling Salmonellosis in a commercial dairy herd.
AUTHOR(S): **Emery, D.; Straub, D.;** Slinden, L.

AVAILABILITY: DNAL (SF961.A5)
SOURCE: Proceedings of the ... annual conference, Sept 2001. No. 34th. p. 132
Publisher: Stillwater, OK : The Association, 1996-
NOTE: Meeting held Sept. 13-15, 2001, Vancouver, British Columbia, Canada.
PUB. COUNTRY: Oklahoma; United States
DOCUMENT TYPE: Article; Conference
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension
LANGUAGE: English

L42 ANSWER 5 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1999:364367 BIOSIS
DOCUMENT NUMBER: PREV199900364367
TITLE: Method of inducing an immune response in a young animal.
AUTHOR(S): **Emery, Daryll A. (1); Straub, Darren E.**; Huisinga, Richard
CORPORATE SOURCE: (1) Willmar, MN USA
ASSIGNEE: Willmar Poultry Company, Inc.
PATENT INFORMATION: US 5906826
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (5/25/1999) Vol. 1222, No. 4, pp. NO PAGINATION.
ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English

L42 ANSWER 6 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 3
ACCESSION NUMBER: 1999:320086 BIOSIS
DOCUMENT NUMBER: PREV199900320086
TITLE: Percoll process can improve semen quality and fertility in Turkey breeders.
AUTHOR(S): Choi, K. H. (1); **Emery, D. A.**; **Straub, D. E.**; Lee, C.-S.
CORPORATE SOURCE: (1) Dept. of Clinical and Population Sci., Coll. of Vet. Med., Univ. of Minn., 1365 Gortner Ave., Saint Paul, MN, 55108 USA
SOURCE: Asian-Australasian Journal of Animal Sciences, (Aug., 1999) Vol. 12, No. 5, pp. 702-707.
ISSN: 1011-2367.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English
AB A percoll density gradient technique was developed for producing high quality turkey semen and improving the fertility by removing deleterious cellular components, including spermiophages, bacteria, abnormal or dead spermatozoa, and other cellular debris. The combination of three different percoll densities, 1.05, 1.07, and 1.08, showed the best resolution and was selected to prepare a discontinuous percoll density gradient to obtain healthy spermatozoa from semen samples. Bacteria, spermiophages, and abnormal or dead spermatozoa were detected from the density range from 1.05, 1.05 to 1.07, and 1.07 to 1.08, respectively. Healthy spermatozoa were collected from the density greater than 1.08. Spermatozoa obtained from percoll density gradient centrifugation showed better sperm

motility than those from unprocessed pooled semen. Bacteria including Escherichia coli, Staphylococcus aureus, and Proteus spp., were predominant contaminants in turkey semen, and the numbers of cells were approximately 5 X 105 to 1 X 109 cfu/ml. The overall fertility rates in hens inseminated with processed percoll density gradient were higher than those in hens with unprocessed semen especially for unhealthy sperm. In conclusion, semen quality can be improved by percoll density gradient centrifugation, which augmented the fertility of turkey breeders.

L42 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 4
ACCESSION NUMBER: 1998:719066 HCAPLUS
DOCUMENT NUMBER: 129:329697
TITLE: Immunization against bacterial infection using siderophore receptors
INVENTOR(S): **Emery, Daryll A.; Straub, Darren E.**; Huisinga, Richard; Carlson, Beth A.
PATENT ASSIGNEE(S): Willmar Poultry Company Inc, USA
SOURCE: U.S., 24 pp., Cont.-in-part of U.S. Ser. No. 194,040, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5830479	A	19981103	US 1995-385273	19950208
CA 2182976	AA	19950817	CA 1995-2182976	19950209
WO 9521627	A1	19950817	WO 1995-US1739	19950209
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UG				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9519159	A1	19950829	AU 1995-19159	19950209
EP 749321	A1	19961227	EP 1995-911683	19950209
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
US 6027736	A	20000222	US 1997-903858	19970730
US 6432412	B1	20020813	US 1999-361081	19990726
US 2003064073	A1	20030403	US 2002-185498	20020628

PRIORITY APPLN. INFO.:

US 1994-194040	B2	19940209
US 1995-385273	A	19950208
WO 1995-US1739	W	19950209
US 1997-903858	A1	19970730
US 1999-361081	A1	19990726

AB The invention provides a vaccine for immunizing poultry and other animals against infection by a gram-neg. bacteria. The vaccine contains purified siderophore receptor proteins derived from a single strain or species of gram-neg. bacteria or other organism, which are cross-reactive with siderophores produced by two or more strains, species or genera of gram-neg. bacteria. The invention further provides a process for isolating and purifying the siderophore receptor proteins, and for prepg. a vaccine contg. the

proteins. Also provided is a method for diagnosing gram-neg. sepsis.

REFERENCE COUNT: 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 8 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:46636 BIOSIS
DOCUMENT NUMBER: PREV200200046636
TITLE: Method of priming an immune response in a one-day old animal.
AUTHOR(S): **Emery, D. A.; Straub, D. E.;** Husinga, R.
CORPORATE SOURCE: Willmar, Minn. USA
ASSIGNEE: WILLMAR POULTRY COMPANY, INC.
PATENT INFORMATION: US 5538733 July 23, 1996
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (July 23, 1996) Vol. 1188, No. 4, pp. 2837.
ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English

L42 ANSWER 9 OF 12 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1996-097433 [10] WPIDS
DOC. NO. CPI: C1996-031451
TITLE: Priming of the immune response in a 1-90 day-old animal - by admin. of a biocompatible implant with immunogen releasably contained in it.
DERWENT CLASS: A96 B04 B07 C03 C07
INVENTOR(S): **EMERY, D A;** HUISINGA, R; **STRAUB, D E**
PATENT ASSIGNEE(S): (WILL-N) WILLMAR POULTRY CO INC
COUNTRY COUNT: 60
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9601620	A1	19960125	(199610)*	EN	47
RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ					
W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NL NO NZ PL PT RO RU SD SE SI SK TJ TT UA UZ VN					
AU 9517387	A	19960209	(199619)		
US 5538733	A	19960723	(199635)		19
EP 804164	A1	19971105	(199749)	EN	
R: BE DE DK ES FR GB IE IT NL					
US 5906826	A	19990525	(199928)		
EP 804164	B1	20020814	(200255)	EN	
R: BE DE DK ES FR GB IE IT NL					
DE 69527804	E	20020919	(200269)		
EP 804164	B8	20030115	(200306)	EN	
R: BE DE DK ES FR GB IE IT NL					
ES 2181798	T3	20030301	(200322)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9601620	A1		WO 1995-US1304	19950202
AU 9517387	A		AU 1995-17387	19950202
US 5538733	A		US 1994-272116	19940707
EP 804164	A1		EP 1995-938205	19950202
			WO 1995-US1304	19950202
US 5906826	A	Cont of	US 1994-272116	19940707
			US 1996-626849	19960403
EP 804164	B1		EP 1995-938205	19950202
			WO 1995-US1304	19950202
DE 69527804	E		DE 1995-627804	19950202
			EP 1995-938205	19950202
			WO 1995-US1304	19950202
EP 804164	B8		EP 1995-938205	19950202
			WO 1995-US1304	19950202
ES 2181798	T3		EP 1995-938205	19950202

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9517387	A	Based on	WO 9601620
EP 804164	A1	Based on	WO 9601620
US 5906826	A	Cont of	US 5538733
EP 804164	B1	Based on	WO 9601620
DE 69527804	E	Based on	EP 804164
		Based on	WO 9601620
EP 804164	B8	Based on	WO 9601620
ES 2181798	T3	Based on	EP 804164

PRIORITY APPLN. INFO: US 1994-272116 19940707; US 1996-626849 19960403

AN 1996-097433 [10] WPIDS

AB WO 9601620 A UPAB: 20030101

Priming of the immune response in a 1-90 day-old animal comprises the admin. of a biocompatible implant with an immunogen releasably contained in it, where the implant provides sustained release of the immunogen into the tissue fluids for 1-90 days to stimulate a primary immune response in the presence of circulating maternal antibodies. This response is effective to stimulate a secondary immune response in the animal upon subsequent contact with the immunogen.

Also claimed are: (1) an implant which comprises a biocompatible carrier matrix and an immunogenic amt. of vasoactive intestinal peptide (VIP) effective for controlling prolactin release in a fowl; (2) an implant comprising a biocompatible, biodegradable carrier matrix and an immunogenic amt. of a siderophore receptor protein reactive with a siderophore selected from the gp. consisting of aerobactin, enterochelin, citrate, multocidin, ferrichrome, coprogen and mycobactin, and (3) a method of controlling the release of prolactin in a bird by admin. of a biocompatible carrier matrix and an immunogenic amt. of VIP (or a fragment) releasably contained in the matrix, where the implant provides sustained release of the peptides into tissue fluids for 1-210 days, the amt. of the peptide being released being sufficient to control the release of prolactin in the bird.

USE - The method is useful to prime the immune response in a

young animal so that the animal produces a secondary active immune response immediately on contact with the immunogen when passive protection is no longer provided by circulating maternal antibodies.

ADVANTAGE - The method only causes a minimal amt. of stress to the animal and does not cause adverse reactions, e.g. granuloma formation.

Dwg.0/7

ABEQ US 5538733 A UPAB: 19960905

A method of inducing an immune response in a 1-day old fowl, comprising:

administering to the fowl, a biocompatible solid implant that is bioabsorbable, biodegradable, bioerodible, or a combination thereof, with an immunogen releasably contained therein by subcutaneous or intermuscular injection;

wherein the immunogen is derived from a pathogenic organism selected from the group consisting of viruses, bacteria, fungi, moulds, protozoans, nematodes, helminths, and spirochetes;

the implant providing sustained release of the immunogen into tissue fluids of the fowl for a period of about 1-90 days, in an amount effective to stimulate a primary immune response to the immunogen in the fowl in the presence of circulating maternal antibodies;

the primary immune response effective to stimulate a secondary immune response in the fowl upon subsequent contact with the immunogen.

Dwg.0/8

L42 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 5

ACCESSION NUMBER: 1995:867774 HCAPLUS
DOCUMENT NUMBER: 123:254562
TITLE: Active immunization using a siderophore receptor protein
INVENTOR(S): **Emery, Daryll A.**; **Straub, Darren E.**; Huisinga, Richard; Carlson, Beth A.
PATENT ASSIGNEE(S): Willmar Poultry Company, Inc., USA
SOURCE: PCT Int. Appl., 67 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9521627	A1	19950817	WO 1995-US1739	19950209
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UG				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5830479	A	19981103	US 1995-385273	19950208
AU 9519159	A1	19950829	AU 1995-19159	19950209
EP 749321	A1	19961227	EP 1995-911683	19950209
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				

PRIORITY APPLN. INFO.: US 1994-194040 A 19940209

US 1995-385273 A 19950208
WO 1995-US1739 W 19950209

AB The invention provides a vaccine for immunizing poultry and other animals against infection by a gram-neg. bacteria, and a method of immunizing an animal using the vaccine. The vaccine may contain purified siderophore receptor proteins derived from a single strain or species of gram-neg. bacteria or other organisms, which are cross-reactive with sideophores produced by two or more strains, species or genera of gram-neg. bacteria. The invention further provides a process for isolating and purifying the sideophore receptor proteins, and for prepg. a vaccine contg. the proteins. Also provided is a method for diagnosing gram-neg. sepsis.

L42 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 6
ACCESSION NUMBER: 1995:532347 HCAPLUS
DOCUMENT NUMBER: 122:260565
TITLE: Method for purifying egg yolk immunoglobulins
INVENTOR(S): **Emery, Daryll A.; Straub, Darren E.**
PATENT ASSIGNEE(S): Willmar Poultry Co., Inc., USA
SOURCE: PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9507290	A1	19950316	WO 1994-US9148	19940812
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ, VN				
RW: KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5420253	A	19950530	US 1993-118514	19930909
CA 2171317	AA	19950316	CA 1994-2171317	19940812
AU 9475638	A1	19950327	AU 1994-75638	19940812
PRIORITY APPLN. INFO.:			US 1993-118514	19930909
			WO 1994-US9148	19940812

AB The present invention provides a method for providing high yields of IgG Igs from an egg yolk by a single sepn. step using a nonionic detergent as well as a compn. contg. the purified IgG Igs. Also provided are methods of using the purified IgG Igs in immunodiagnostic assays and passive immunity therapies.

L42 ANSWER 12 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:19145 BIOSIS
DOCUMENT NUMBER: PREV200200019145
TITLE: Method for purifying egg yolk immunoglobulins.
AUTHOR(S): **Emery, D. A.; Straub, D. E.**
CORPORATE SOURCE: Willmar, Minn. USA
ASSIGNEE: WILLMAR POULTRY COMPANY, INC.
PATENT INFORMATION: US 5420253 May 30, 1995
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (May 30, 1995) Vol. 1174,

No. 5, pp. 3403.
ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English

FILE 'HOME' ENTERED AT 12:52:55 ON 24 JUN 2003

=> s l1 and enterochelin
L8 0 L1 AND ENTEROCHELIN

=> dup rem l1
PROCESSING COMPLETED FOR L1
L9 96 DUP REM L1 (146 DUPLICATES REMOVED)

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L10 19 L9 AND VACCIN?

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L10 ANSWER 1 OF 19 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2002:41321 BIOSIS
DN PREV200200041321
TI Evaluation of an autogenous **Salmonella** bacterin and a modified live **Salmonella** serotype Choleraesuis **vaccine** on a commercial dairy farm.
AU House, John K. (1); Ontiveros, Monica M. (1); Blackmer, Nicole M. (1); Dueger, Erica L. (1); Fitchhorn, Jennifer B. (1); McArthur, Gary R.; Smith, Bradford P. (1)
CS (1) Department of Medicine and Epidemiology, School of Veterinary Medicine, University of California, Davis, CA, 95616 USA
SO American Journal of Veterinary Research, (December, 2001) Vol. 62, No. 12, pp. 1897-1902. print.
ISSN: 0002-9645.
DT Article
LA English
AB Objective: To compare the efficacy of a **Salmonella** bacterin and a modified live **Salmonella** ser. Choleraesuis **vaccine** on a commercial dairy. Animals: 450 cows in late gestation and 80 calves. Procedure: Group-1 cows (n=150) were **vaccinated** once with a modified live S Choleraesuis (serogroup C1) strain 54 (SC54) **vaccine**, group-2 cows (150) were **vaccinated** on enrollment and 30 days later with a **Salmonella** ser. Montevideo (serogroup C1) bacterin, and group-3 cows (150) served as unvaccinated controls. One gallon of colostrum harvested from the first 80 cows to calve was fed to each calf. Outcome assessments included **fecal shedding** of **Salmonella** spp for the first 10 days after parturition (cows) or birth (calves), milk production, involuntary culling rate, mastitis incidence, antimicrobial use, and mortality rate. Results: Salmonellae were isolated from 306 of 309 (99%) cows and 64 of 74 (86.5%) calves. Shedding frequency was less in SC54-**vaccinated** cows and calves that received colostrum from those cows, compared with the other groups, and **vaccination** was specifically associated with less shedding of serogroup C1 salmonellae. Production data were similar among groups. Conclusions and Clinical Relevance: **Vaccination** of pregnant cows with an autogenous **Salmonella** bacterin had no effect on **fecal shedding** of salmonellae, whereas **vaccination** with a modified live S Choleraesuis **vaccine** reduced the frequency of **fecal shedding** of serogroup C1 salmonellae during the peripartum period. A commercial S Choleraesuis **vaccine** licensed for use in swine may be more efficacious than autogenous **Salmonella** bacterins on dairies infected with serogroup C1 salmonellae.

L10 ANSWER 2 OF 19 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1998:213309 BIOSIS
DN PREV199800213309
TI Effects of heterophil adaptation on **Salmonella** enteritidis **fecal shedding** and egg contamination.
AU Kramer, T. T. (1)

after 2 OPV doses. Seroresponses were 86% to Sabin type 1, 97% to Sabin type 2, and 61% to Sabin type 3 **vaccines**. Mass versus routine **vaccination** and preexisting poliovirus antibodies did not affect immunogenicity. By multiple logistic regression analysis, **fecal shedding** of homologous Sabin strains was associated with increased seroresponses to all Sabin types, especially to Sabin type 3. Decreased OPV immunogenicity was primarily attributable to interference of Sabin type 3 by Sabin type 2. OPV formulations with higher doses of Sabin type 3 could improve immunogenicity among infants in developing countries.

L10 ANSWER 7 OF 19 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1995:108406 BIOSIS
DN PREV199598122706
TI Safety, efficacy, and duration of immunity induced in swine by use of an avirulent live **Salmonella** choleraesuis-containing **vaccine**.
AU Roof, Michael B.; Doitchinoff, D. Dean
CS NOBL Lab. Inc., Sioux Cent., IA USA
SO American Journal of Veterinary Research, (1995) Vol. 56, No. 1, pp. 39-44. ISSN: 0002-9645.
DT Article
LA English
AB An avirulent live **Salmonella** choleraesuis culture (SC-54) was evaluated for use as an effective **vaccine** in preventing salmonellosis caused by S. choleraesuis in pigs. Eighty-two pigs, 3 to 4 weeks old, were randomly assigned to 1 of 2 treatment groups, which were designated as either **vaccinates** or controls. After **vaccination**, all pigs were examined for **fecal shedding** of S. choleraesuis, rectal temperature, and 10 clinical variables. Significant difference was not detected between **vaccinated** and nonvaccinated pigs for 14 days (phase I) after intranasal administration of the **vaccine**. Efficacy and duration of immunity were examined by intranasally challenge exposing respective pigs from either treatment group with a virulent field isolate of S. choleraesuis at 2, 8, or 20 weeks after **vaccination** (phases II-IV). Pigs were again evaluated for 14 days after challenge exposure, and 10 clinical variables and rectal temperature were monitored. Surviving pigs were euthanatized and evaluated for gross lesions, and samples of 7 organs were collected. These organ samples were homogenized, and level of S. choleraesuis infection was determined. After virulent challenge exposure during phases II-IV, the clinical status of the SC-54 **vaccinates** was significantly (P lt 0.05) superior to that of nonvaccinates for rectal temperature, feces consistency, behavior, appetite, body condition, and mean score for the 10 clinical variables. Quantitative bacteriologic culture of the tonsil, lung, liver, spleen, mesenteric lymph nodes, ileum, and colon samples indicated consistent reduction of organ colonization in **vaccinates**; bacteria numbers in the mesenteric lymph nodes, lungs, and ileum were significantly (P lt 0.05) reduced. Gross lesions in pigs indicated reduction of penumonia in **vaccinates**. Pigs also had consistent weight gain throughout all phases of the study after challenge exposure, although the differences were not significant. In conclusion, a single intranasally administered dose of SC-54 given to 3- to 4-week-old pigs proved to be safe and efficacious and to provide protection to pigs at least 20 weeks after initial **vaccination**.

L10 ANSWER 8 OF 19 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1994:272711 BIOSIS
DN PREV199497285711
TI Virulent **Salmonella** typhimurium-induced lymphocyte depletion and immunosuppression in chickens.
AU Hassan, Jubril Olu; Curtiss, Roy, III (1)
CS (1) Dep. Biol., Campus Box 1137, Washington Univ., St. Louis, MO 63130 USA

vaccinated hens still shed substantial numbers of S. enteritidis. If used in conjunction with other flock sanitation and infection-monitoring strategies, **vaccination** with bacterins could potentially reduce the overall level of environmental contamination and thereby also reduce the horizontal transmission of S. enteritidis within and between laying flocks.

L10 ANSWER 10 OF 19 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1993:252120 BIOSIS
DN PREV199395131295
TI Effect of infective dose on humoral immune responses and colonization in chickens experimentally infected with **Salmonella** typhimurium.
AU Hassan, Jubril Olu; Porter, Susan B.; Curtiss, Roy, III (1)
CS (1) Dep. Biol., Washington University, St. Louis, MO 63130 USA
SO Avian Diseases, (1993) Vol. 37, No. 1, pp. 19-26.
ISSN: 0005-2086.
DT Article
LA English
SL English; Spanish
AB The influence of infective dose on chicken immunogenicity was examined in 1-week-old chickens. Chickens were infected orally with various doses of chi-3761 or chi-3985. **Fecal shedding**, colonization of the cecum, and induction of **Salmonella**-specific serum immunoglobulin isotypes were analyzed over a 5-week period. The DELTA-cya-DELTA-crp **Salmonella** typhimurium **vaccine** strain chi-3985 was used to assess the effect of **vaccination** dose on protection after oval **vaccination** of chickens at 1 day and 2 weeks of age. Wild-type S. typhimurium strain chi-3761 was used to challenge **vaccinated** and unvaccinated chickens at 6 weeks of age, and the recovery of **Salmonella** from the cecum was used as a measure of protection. Infection of 1-week-old chickens with chi-3985 was more effective in reducing fecal excretion and cecal colonization than was infection with chi-3761. Double **vaccination** with 10-8 or 10-7 CFU of chi-3985 at 1 day and 2 weeks of age protected **vaccinated** chickens against cecal colonization by the challenge strain chi-3761. Immunogenicity of **Salmonella** is dose- and genotype-dependent.

L10 ANSWER 11 OF 19 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1992:27964 BIOSIS
DN BA93:17239
TI RESISTANCE TO **FECAL SHEDDING** OF SALMONELLAE IN PIGS AND CHICKENS **VACCINATED** WITH AN AROMATIC-DEPENDENT MUTANT OF **SALMONELLA**-TYPHIMURIUM.
AU LUMSDEN J S; WILKIE B N; CLARKE R C
CS DEP. VETERINARY MICROBIOLOGY IMMUNOLOGY, ONTARIO VETERINARY COLLEGE, UNIVERSITY GUELPH, GUELPH, ONTARIO, CAN. N1G 2W1.
SO AM J VET RES, (1991) 52 (11), 1784-1787.
CODEN: AJVRAH. ISSN: 0002-9645.
FS BA; OLD
LA English
AB The purpose of this study was to evaluate the effectiveness of an aromatic-dependent mutant of **Salmonella** typhimurium as a parenteral **vaccine** for prevention of **fecal shedding** of **Salmonella** spp. Pigs and chickens were **vaccinated** IM, with 1 .times. 109 and 1 .times. 108 organisms, respectively, followed by a second identical **vaccination** 2 weeks later. **Salmonella** organisms were not detected by analysis of fecal or cloacal swab specimens from any animal after **vaccination** . Deleterious side effects were not noticed after **vaccination**. Pigs were challenge-inoculated PO with 1 .times. 1012 virulent S typhimurium 1 week after the second **vaccination**. Chickens were challenge-inoculated PO with 3 .times. 108 organisms of either S enteritidis or the virulent parent strain of S typhimurium 3 weeks after